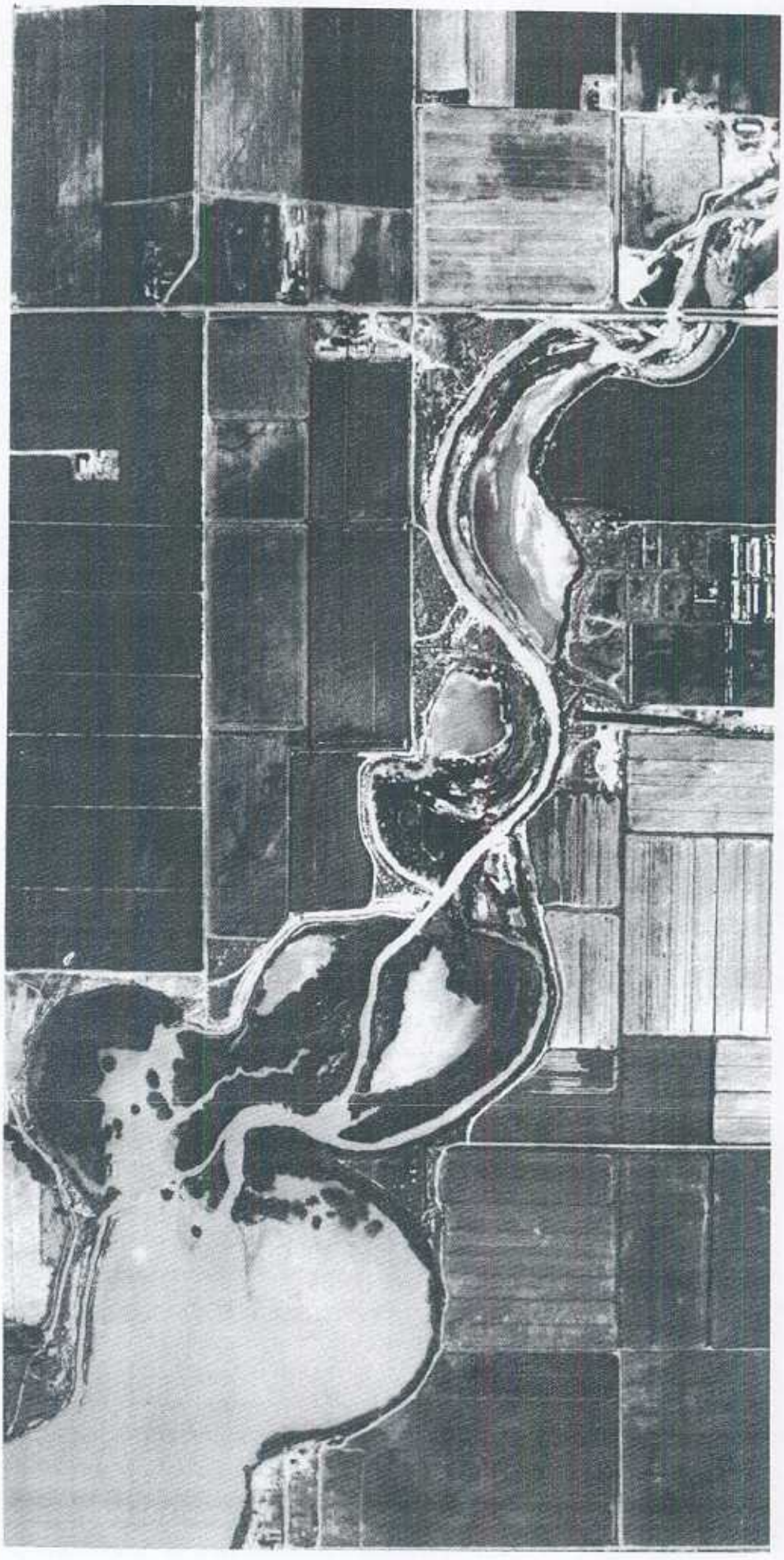

# Water-Related Land Use Inventories

# Utah

***Lower Jordan River Study Area***

UTAH
NATURAL RESOURCES
Water Resources

# A WATER-RELATED LAND USE INVENTORY REPORT of the LOWER JORDAN RIVER STUDY AREA

Aerial Photography and Field Mapping
Conducted in 1988

Prepared by

Utah Department of Natural Resources
Division of Water Resources

March 1994

## ACKNOWLEDGEMENTS

This land use inventory report was conducted under the direction of Paul L. Gillette, deputy director, and supervised by Lloyd H. Austin, chief, Resources Inventories and Special Studies Section, Utah State Division of Water Resources. Staff members assisting in the preparation of this report and/or in the data collection and analyses were Jim Stephens, Anne Lewis, Ajit Gill, Kara Hartman, Randy Staker, Steve Richardson, Richard Tullis, Eric Klotz and Lloyd Austin. George Pyper (United States Geological Survey) assisted in the field mapping and checking.

Appreciation is expressed to those who have provided time and effort to acquire data and information for this inventory.

D. Larry Anderson

D. Larry Anderson, Director

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## SUMMARY

This Water-Related Land Use Inventory Report of the Lower Jordan River Study Area is another in a series of land use reports prepared by the Division of Water Resources from data collected under its water-related land use inventory program. The land use inventory program of the division was set up to provide the land use data needed in the preparation of water budgets, hydrologic inventory reports and other state water planning activities. The division has collected land use data since 1966.

The water-related land use data for the Lower Jordan River Study Area were collected in 1988 by the Division of Water Resources. The report displays the data by subarea (see Figures 5 through 39) and tabulates it in Table 2. The Lower Jordan River Study Area includes all of Salt Lake County and consequently the total in table 2 reflects the total for the county. The table is presented in this summary as Table i.

The division inventoried over 222,786 acres of land in the Lower Jordan River Study Area. This represents about 52 percent of the entire Study Area. Areas not inventoried are mainly desert, rangeland or national forests. Of the inventoried acres, 29,777 were irrigated land (including land that was fallow, idle or sub-irrigated), 43,063 were wet/open water areas (including the Great Salt Lake), and 116,146 were residential or industrial areas (including farmsteads and rural housing).

In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Wet Flats are generally mapped if they fall within or border irrigated lands. Wet Flats alone are normally not mapped. Acres shown in the table reflect only the numbers of acres mapped, not the total

Table i. Summary of land cover by subarea for the Lower Jordan River (Salt Lake Co.) Study Area (acres).

| Code | Cover | Trvrs nts West 04-02-001 | Bfld/Rose Cyn. 04-02-002-01 | Herriman 04-02-002-02 | Bingham Cyn. 04-02-003 | Bear/Bells Cyn. 04-02-004 | L. Cttnwd Cyn 04-02-005 | Big Cttnwd Cyn 04-02-006 | Mill Cr. Cyn. 04-02-007 | Parleys Cyn. 04-02-008 |
|---|---|---|---|---|---|---|---|---|---|---|
| IA1a | Fruit | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA1e | Other Horticulture | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2a | Grain | 0 | 521 | 21 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2a1 | Corn | 0 | 171 | 8 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2b | Vegetables | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2b1 | Potatoes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2b2 | Onions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2b3 | Beans | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2c | Other Row Crops | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA3a | Alfalfa | 0 | 915 | 209 | 1 | 0 | 0 | 0 | 0 | 0 |
| IA3b | Grass Hay | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA3c | Grass/Turf | 0 | 141 | 24 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA3d | Pasture | 0 | 376 | 158 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA4a | Fallow | 0 | 138 | 35 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA4b | Idle Overgrown | 0 | 166 | 20 | 0 | 0 | 0 | 0 | 0 | 69 |
| IIA1a | Pasture (surf. & sub.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIA1b | Grass Hay (surf. & sub.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Surface Irr. Cropland Subtotal | | 0 | 2,456 | 475 | 1 | 0 | 0 | 0 | 0 | 69 |
| IIA2a | Sub. Irr. Pasture | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIA2b | Sub. Irr. Grass Hay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sub. Irr. Cropland Subtotal | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Irrigated Croplands Subtotal | | 0 | 2,456 | 475 | 1 | 0 | 0 | 0 | 0 | 69 |
| II8 | Cattail/Bullrush Aspect | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| II8-E | Wet/Vegetation Asp. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIC | Wet Flats | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIE | Riparian | 0 | 0 | 0 | 85 | 0 | 0 | 0 | 0 | 53 |
| IIF | Open Water | 0 | 44 | 0 | 51 | 13 | 35 | 96 | 0 | 75 |
| IIF2 | Reservoirs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF4a | Temporary Flooded | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF4b | Sewage Lagoon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF4c | Evaporation Pond | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 |
| IIF5 | Salt Water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wet/Open Water Subtotal | | 0 | 44 | 0 | 153 | 13 | 35 | 96 | 0 | 128 |
| VA | Farmsteads | 0 | 142 | 64 | 25 | 0 | 0 | 0 | 0 | 0 |
| VB | Residential | 0 | 277 | 238 | 79 | 0 | 0 | 170 | 0 | 4 |
| VB3 | Open Spaces | 0 | 3 | 33 | 13 | 0 | 0 | 0 | 0 | 158 |
| VC | Commercial/Industrial | 0 | 10 | 0 | 403 | 0 | 49 | 0 | 0 | 0 |
| Residential/Industrial Subtotal | | 0 | 432 | 335 | 520 | 0 | 49 | 170 | 0 | 162 |
| Land Use/Land Cover Totals | | 0 | 2,932 | 810 | 674 | 13 | 84 | 266 | 0 | 359 |

## Table i. Continued.

| Code | Cover | Emigration Cyn. 04-02-009 | Red Butte Cyn. 04-02-010 | City Creek Cyn. 04-02-011 | Tailings Pond 04-02-012 | Harkers/Coon Cyn 04-02-013 | Bluffdale 04-02-014 | Draper 04-02-015 | Riverton 04-02-016 | Sandy 04-02-017-01 |
|---|---|---|---|---|---|---|---|---|---|---|
| IA1a | Fruit | 0 | 0 | 0 | 0 | 5 | 15 | 66 | 0 | 47 |
| IA1e | Other Horticulture | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2a | Grain | 0 | 0 | 0 | 0 | 77 | 504 | 409 | 646 | 80 |
| IA2a1 | Corn | 0 | 0 | 0 | 0 | 9 | 101 | 548 | 148 | 85 |
| IA2b | Vegetables | 0 | 0 | 0 | 0 | 0 | 0 | 155 | 9 | 28 |
| IA2b1 | Potatoes | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| IA2b2 | Onions | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 |
| IA2b3 | Beans | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2c | Other Row Crops | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA3a | Alfalfa | 0 | 0 | 0 | 0 | 13 | 784 | 1,081 | 859 | 232 |
| IA3b | Grass Hay | 0 | 0 | 0 | 0 | 39 | 37 | 159 | 29 | 32 |
| IA3c | Grass/Turf | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| IA3d | Pasture | 0 | 0 | 0 | 0 | 349 | 771 | 781 | 497 | 419 |
| IA4a | Fallow | 0 | 0 | 0 | 0 | 0 | 143 | 56 | 130 | 0 |
| IA4b | Idle Overgrown | 0 | 0 | 0 | 0 | 11 | 356 | 365 | 214 | 97 |
| IIA1a | Pasture (surf. & sub.) | 0 | 0 | 0 | 0 | 22 | 25 | 146 | 17 | 43 |
| IIA1b | Grass Hay (surf. & sub.) | 0 | 0 | 0 | 0 | 92 | 0 | 0 | 0 | 0 |
| Surface Irr. Cropland Subtotal | | 0 | 0 | 0 | 0 | 617 | 2,736 | 3,781 | 2,550 | 1,063 |
| IIA2a | Sub. Irr. Pasture | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 230 | 51 |
| IIA2b | Sub. Irr. Grass Hay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sub. Irr. Cropland Subtotal | | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 230 | 51 |
| Irrigated Croplands Subtotal | | 0 | 0 | 0 | 0 | 617 | 2,744 | 3,781 | 2,780 | 1,114 |
| IIB | Cattail/Bullrush Aspect | 0 | 0 | 0 | 0 | 236 | 0 | 0 | 0 | 0 |
| IIB-E | Wet/Vegetation Asp. | 0 | 0 | 0 | 0 | 14,591 | 0 | 0 | 0 | 0 |
| IIC | Wet Flats | 0 | 0 | 0 | 0 | 10,574 | 0 | 0 | 0 | 0 |
| IIE | Riparian | 0 | 0 | 0 | 0 | 26 | 255 | 20 | 0 | 12 |
| IIF | Open Water | 0 | 13 | 18 | 5 | 403 | 5 | 0 | 3 | 5 |
| IIF2 | Reservoirs | 0 | 0 | 0 | 0 | 3,874 | 0 | 0 | 0 | 0 |
| IIF4a | Temporary Flooded | 0 | 0 | 0 | 0 | 49 | 0 | 0 | 0 | 0 |
| IIF4b | Sewage Lagoon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF4c | Evaporation Pond | 0 | 0 | 0 | 6,810 | 1,352 | 0 | 178 | 0 | 0 |
| IIF5 | Salt Water | 0 | 0 | 0 | 0 | 854 | 0 | 0 | 0 | 0 |
| Wet/Open Water Subtotal | | 0 | 13 | 18 | 6,815 | 31,959 | 260 | 198 | 3 | 17 |
| VA | Farmsteads | 0 | 0 | 0 | 0 | 16 | 69 | 149 | 42 | 19 |
| VB | Residential | 360 | 0 | 0 | 0 | 33 | 1,038 | 2,054 | 1,964 | 10,929 |
| VB3 | Open Spaces | 0 | 0 | 0 | 0 | 13 | 0 | 45 | 7 | 148 |
| VC | Commercial/Industrial | 0 | 0 | 0 | 0 | 2,782 | 247 | 289 | 61 | 501 |
| Residential/Industrial Subtotal | | 360 | 0 | 0 | 0 | 2,844 | 1,354 | 2,547 | 2,074 | 11,597 |
| Land Use/Land Cover Totals | | 360 | 13 | 18 | 6,815 | 35,420 | 4,358 | 6,526 | 4,857 | 12,728 |

## Table i. Continued.

| Code | Cover | White City 04-02-017-02 | S. Jordan 04-02-018 | W. Jordan 04-02-019 | Midvale 04-02-020 | SLC#3 04-02-021-01 | SLWCD#1 04-02-021-02 | SLWCD#2 04-02-021-03 | SLWCD#3 04-02-021-04 | Holiday 04-02-021-05 |
|---|---|---|---|---|---|---|---|---|---|---|
| IA1a | Fruit | 14 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 |
| IA1e | Other Horticulture | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 |
| IA2a | Grain | 0 | 902 | 701 | 20 | 6 | 0 | 0 | 0 | 0 |
| IA2a1 | Corn | 7 | 76 | 74 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2b | Vegetables | 0 | 0 | 52 | 0 | 8 | 0 | 0 | 0 | 0 |
| IA2b1 | Potatoes | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2b2 | Onions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2b3 | Beans | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2c | Other Row Crops | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA3a | Alfalfa | 13 | 1,724 | 941 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA3b | Grass Hay | 0 | 17 | 36 | 0 | 0 | 0 | 35 | 0 | 0 |
| IA3c | Grass/Turf | 0 | 76 | 25 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA3d | Pasture | 5 | 1,020 | 595 | 1 | 87 | 61 | 63 | 59 | 0 |
| IA4a | Fallow | 0 | 64 | 152 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA4b | Idle Overgrown | 0 | 183 | 226 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIA1a | Pasture (surf. & sub.) | 0 | 271 | 169 | 0 | 0 | 0 | 0 | 141 | 0 |
| IIA1b | Grass Hay (surf. & sub.) | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Surface Irr. Cropland Subtotal | | 39 | 4,364 | 2,986 | 21 | 123 | 61 | 98 | 200 | 0 |
| IIA2a | Sub. Irr. Pasture | 0 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIA2b | Sub. Irr. Grass Hay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sub. Irr. Cropland Subtotal | | 0 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Irrigated Croplands Subtotal | | 39 | 4,420 | 2,986 | 21 | 123 | 61 | 98 | 200 | 0 |
| IIB | Cattail/Bullrush Aspect | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIB-E | Wet/Vegetation Asp. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIC | Wet Flats | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIE | Riparian | 0 | 214 | 7 | 0 | 105 | 0 | 65 | 0 | 0 |
| IIF | Open Water | 0 | 82 | 0 | 0 | 9 | 0 | 11 | 0 | 0 |
| IIF2 | Reservoirs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF4a | Temporary Flooded | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF4b | Sewage Lagoon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF4c | Evaporation Pond | 0 | 383 | 18 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF5 | Salt Water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wet/Open Water Subtotal | | 0 | 679 | 25 | 0 | 114 | 0 | 76 | 0 | 0 |
| VA | Farmsteads | 0 | 97 | 28 | 0 | 0 | 0 | 0 | 0 | 0 |
| VB | Residential | 1,359 | 2,737 | 5,323 | 1,420 | 13,553 | 796 | 1,230 | 2,176 | 1,859 |
| VB3 | Open Spaces | 0 | 159 | 148 | 3 | 282 | 0 | 0 | 0 | 0 |
| VC | Commercial/Industrial | 0 | 197 | 1,423 | 622 | 313 | 0 | 28 | 418 | 0 |
| Residential/Industrial Subtotal | | 1,359 | 3,190 | 6,922 | 2,045 | 14,148 | 796 | 1,258 | 2,594 | 1,859 |
| Land Use/Land Cover Totals | | 1,398 | 8,289 | 9,933 | 2,066 | 14,385 | 857 | 1,432 | 2,794 | 1,859 |

## Table i. Continued.

| Code | Cover | Murray 04-02-022 | Tlrsvl/Bnion 04-02-023 | Kearns 04-02-024 | Grngr/Hntr 04-02-025 | Magna 04-02-026 | So. Salt Lake 04-02-027 | SLC#2 04-02-028 | SLC#1 04-02-029 | Subareas Total |
|---|---|---|---|---|---|---|---|---|---|---|
| IA1a | Fruit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 178 |
| IA1e | Other Horticulture | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 21 |
| IA2a | Grain | 0 | 51 | 0 | 110 | 0 | 0 | 0 | 170 | 4,218 |
| IA2a1 | Corn | 0 | 75 | 0 | 36 | 32 | 0 | 0 | 97 | 1,467 |
| IA2b | Vegetables | 0 | 0 | 0 | 0 | 0 | 0 | 68 | 0 | 320 |
| IA2b1 | Potatoes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| IA2b2 | Onions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| IA2b3 | Beans | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2c | Other Row Crops | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 5 |
| IA3a | Alfalfa | 0 | 264 | 5 | 831 | 262 | 0 | 1 | 114 | 8,284 |
| IA3b | Grass Hay | 3 | 0 | 0 | 40 | 0 | 0 | 0 | 217 | 625 |
| IA3c | Grass/Turf | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 794 | 1,078 |
| IA3d | Pasture | 80 | 54 | 0 | 791 | 634 | 0 | 141 | 1,826 | 8,769 |
| IA4a | Fallow | 0 | 5 | 0 | 26 | 0 | 0 | 0 | 0 | 818 |
| IA4b | Idle Overgrown | 0 | 56 | 0 | 161 | 35 | 0 | 1 | 108 | 1,999 |
| IIA1a | Pasture (surf. & sub.) | 0 | 34 | 0 | 0 | 0 | 0 | 105 | 123 | 1,096 |
| IIA1b | Grass Hay (surf. & sub.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 | 208 |
| Surface Irr. Cropland Subtotal | | 83 | 539 | 5 | 2,000 | 992 | 0 | 316 | 3,540 | 29,115 |
| IIA2a | Sub. Irr. Pasture | 0 | 0 | 0 | 144 | 37 | 0 | 22 | 55 | 603 |
| IIA2b | Sub. Irr. Grass Hay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 59 | 59 |
| Sub. Irr. Cropland Subtotal | | 0 | 0 | 0 | 144 | 37 | 0 | 22 | 114 | 662 |
| Irrigated Croplands Subtotal | | 83 | 539 | 5 | 2,144 | 1,029 | 0 | 338 | 3,654 | 29,777 |
| IIB | Cattail/Bullrush Aspect | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 210 | 446 |
| IIB-E | Wet/Vegetation Asp. | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 1,452 | 16,049 |
| IIC | Wet Flats | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 180 | 10,754 [1] |
| IIE | Riparian | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 5 | 878 |
| IIF | Open Water | 0 | 0 | 0 | 81 | 0 | 0 | 14 | 100 | 1,063 |
| IIF2 | Reservoirs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 3,934 |
| IIF4a | Temporary Flooded | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 |
| IIF4b | Sewage Lagoon | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 18 |
| IIF4c | Evaporation Pond | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 260 | 9,018 [2] |
| IIF5 | Salt Water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 854 [3] |
| Wet/Open Water Subtotal | | 0 | 0 | 0 | 81 | 49 | 0 | 20 | 2,267 | 43,063 |
| VA | Farmsteads | 0 | 0 | 0 | 22 | 181 | 0 | 3 | 13 | 870 |
| VB | Residential | 5,533 | 5,544 | 2,697 | 7,838 | 1,838 | 1,595 | 15,546 | 523 | 88,723 |
| VB3 | Open Spaces | 0 | 226 | 26 | 131 | 106 | 0 | 1,555 | 141 | 3,197 |
| VC | Commercial/Industrial | 326 | 690 | 545 | 2,554 | 135 | 1,084 | 3,685 | 6,994 | 23,356 |
| Residential/Industrial Subtotal | | 5,859 | 6,460 | 3,268 | 10,545 | 2,260 | 2,679 | 20,789 | 7,671 | 116,146 |
| Land Use/Land Cover Totals | | 5,942 | 6,999 | 3,273 | 12,770 | 3,338 | 2,679 | 21,147 | 13,592 | 188,986 |

[1] In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Wet Flats are generally mapped if they fall within or border irrigated lands. Wet Flats alone are normally not mapped. Acres shone in the table reflect only the numbers of acres mapped, not the total numbers of acres in the subarea.

[2] Some evaporation ponds were not photographed with 35mm slides. Data were obtained from LANDSAT imagery.

[3] The Salt Water category includes: the Great Salt Lake, Evaporation ponds within the shoreline of the Great Salt Lake such as those at AMAX or Great Salt Lake Minerals Co. This acreage (obtained from existing maps, LANDSAT imagery and 35mm slides) represents the Great Salt Lake at an average surface elevation of 4,200 feet above mean sea level.

numbers of acres in the subarea. The Salt Water category includes the Great Salt Lake and evaporation ponds within the shoreline of the Great Salt Lake. This acreage (obtained from existing maps and LANDSAT imagery) represents the Great Salt Lake at an average surface elevation (4200'). Evaporation ponds outside the shoreline of the Great Salt Lake Such as those used by Kennecott or American Salt are not included in the Salt Water category but are included in other categories. Non-irrigated agricultural lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are often not mapped. Acres shown for this category reflect only the number of acres mapped, not the number of acres that may be in this category in the Study Area. Dry land agriculture (grain, beans, safflowers, etc.) represents a substantial part of the total agriculture in this area of the state. The division mapped 23,140 acres under dry land agriculture in the Lower Jordan River Study Area.

This report also discusses the Division of Water Resources previous and present methodology of collecting and processing water-related land use data. It discusses the various land use classification codes used in past studies, and what is now considered the Standard Land Use Codes, which the division adopted in 1988 for all land use/land cover studies.

The information should be valuable to a variety of users, including county and city planners, state and federal agencies and private land owners. The division will use the data in water budget reports and in state water planning reports.

# INTRODUCTION

The Division of Water Resources has been charged by the Utah State Legislature with the responsibility of developing a state water plan. This plan would coordinate and give direction to the activities of state and federal agencies concerned with Utah's water resources. To accomplish this objective, an assessment of the land use and available water resources is being made on a continuing basis. As a basis for planning and further development, the state has been divided into 11 natural drainage basins or study units shown in Figure 1. The South and East Colorado River Basin (originally designated basin No. 9) has been divided into the Southeast Colorado River Basin (retaining designation No. 9) and the Kanab Creek/Virgin River Basin (Lower Colorado River Basin), which is now basin No. 10.

While land use inventories contain information on land use in the state, water budget reports contain climate, hydrologic, and general information on the water resources within specific basins or study units. The water budgets provide an accounting of water inflow, outflow, yield, storage, evaporation, transpiration and uses in the study area. Hydrologic inventories and water budget reports currently published by the division are listed in Appendix A.

A major consideration in preparing water budgets is the quantity of water depleted through evaporation and transpiration. Estimates of these depletions are obtained by preparing water budgets from data gathered in the water-related land use inventories. This data includes the kinds and extent of irrigated crops, as well as similar information on phreatophytes, wet/open water areas and residential/industrial areas. Since 1966, the division has conducted water-related land use and hydrologic inventories in conjunction with other state water planning activities.

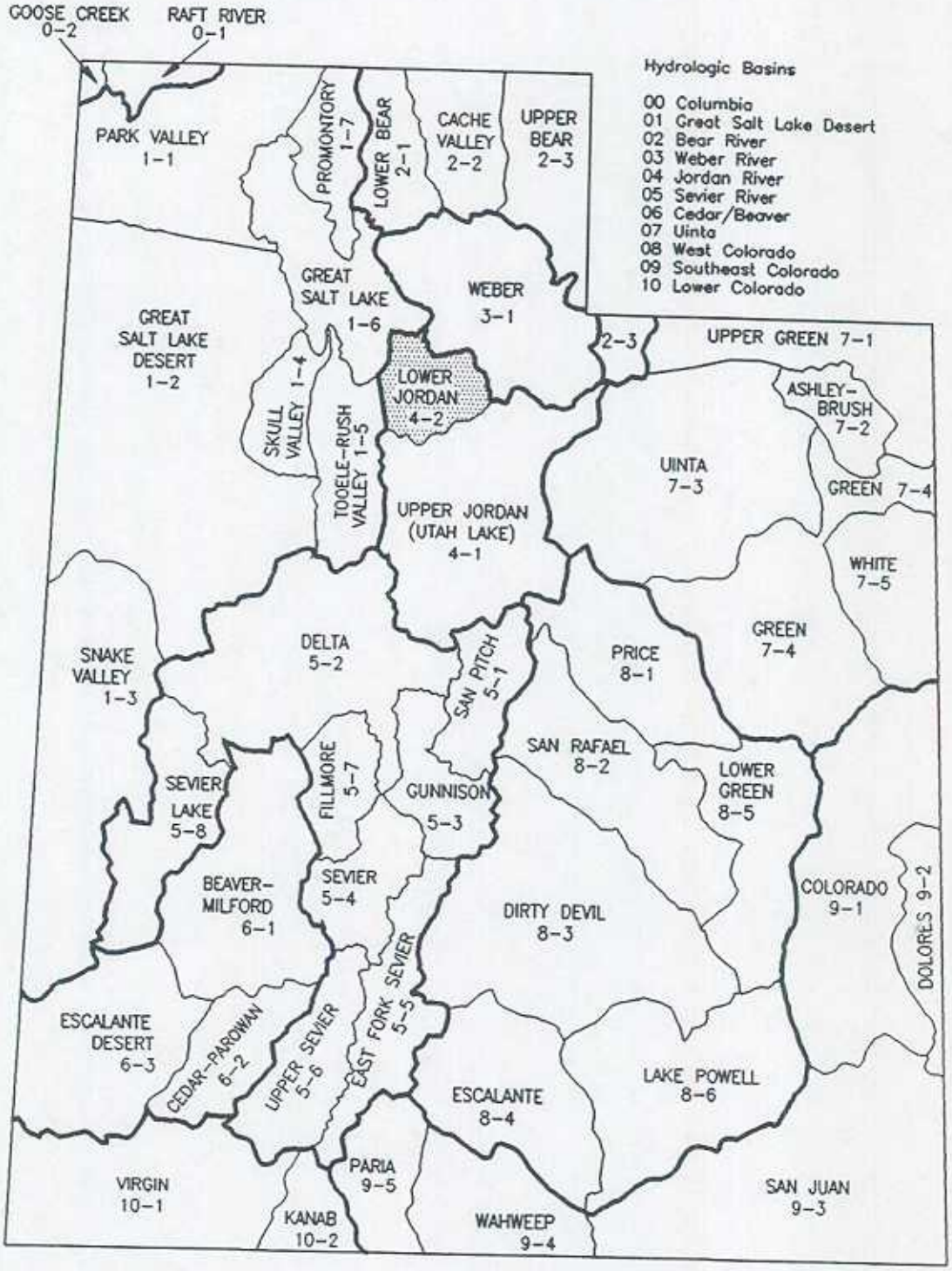


Figure 1. State of Utah hydrologic basins and study areas with the Lower Jordan River (Salt Lake County) Study Area highlighted.

This land use report should assist in promoting the coordinated and orderly development, conservation, use and management of water and land resources in the Lower Jordan River Study Area.

## LOWER JORDAN RIVER STUDY AREA WATER-RELATED LAND USE INVENTORY

The Lower Jordan River Water-Related Land Use Inventory Study Area was shown in Figure 1. Figure 2 shows the study area divided into separate hydrologic subareas. The study area includes approximately 665 square miles of land lying within Salt Lake County. Figure 3 shows the Lower Jordan River Study Area overlaid with a template showing the 7-1/2 min. USGS quadrangle maps used in the inventory. The state Automated Geographic Reference Center's (AGRC) reference numbers are cross-referenced with the division's reference number and the quadrangle name.

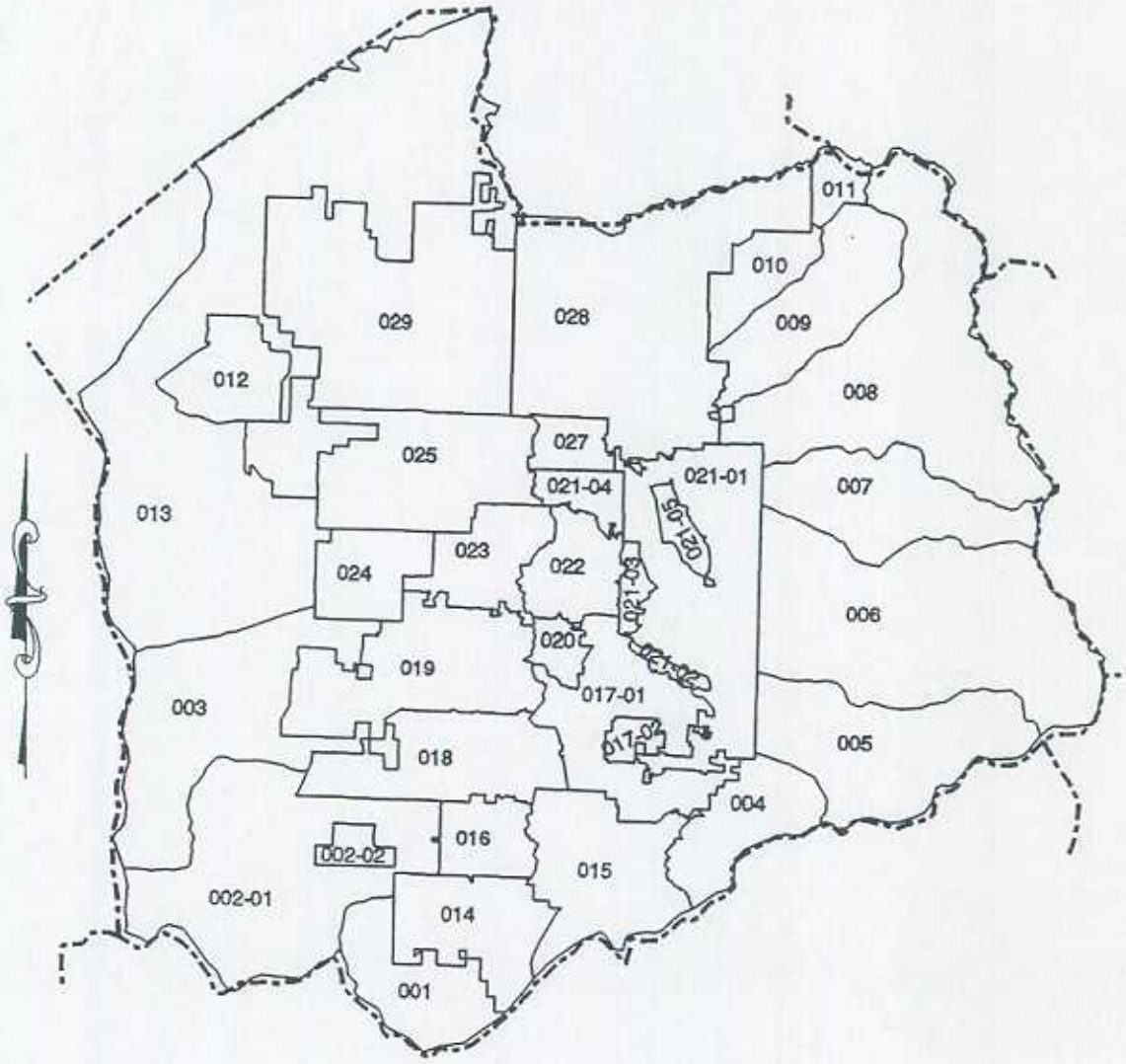


Figure 2. Hydrologic subareas of the Lower Jordan River (Salt Lake County) Study Area.

List of 7-1/2 Minute Quadrangles by Name for Figure 3.

| List No. | Quadrangle Name | AGRC Code | DWR Code |
|---|---|---|---|
| 1 | Saltair N.E. | 1118 | E-8 |
| 2 | Farmington | 1119 | F-1 |
| 3 | Antelope Island So. | 1217 | E-15 |
| 4 | Saltair | 1218 | E-16 |
| 5 | Salt Lake City No. | 1219 | F-9 |
| 6 | Fort Douglas | 1220 | F-10 |
| 7 | Mountain Dell | 1221 | F-11 |
| 8 | Big Dutch Hollow | 1222 | F-12 |
| 9 | Farnsworth Peak | 1317 | E-23 |
| 10 | Magna | 1318 | E-24 |
| 11 | Salt Lake City | 1319 | F-17 |
| 12 | Sugar House | 1320 | F-18 |
| 13 | Mount Aire | 1321 | F-19 |
| 14 | Park City West | 1322 | F-20 |
| 15 | Bingham Canyon | 1417 | E-31 |
| 16 | Lark | 1418 | E-32 |
| 17 | Midvale | 1419 | F-25 |
| 18 | Draper | 1420 | F-26 |
| 19 | Dromedary Peak | 1421 | F-27 |
| 20 | Brighton | 1422 | F-28 |
| 21 | Lowe Peak | 1517 | E-39 |
| 22 | Tickville Spring | 1518 | E-40 |
| 23 | Jordan Narrows | 1519 | F-33 |
| 24 | Lehi | 1520 | F-34 |

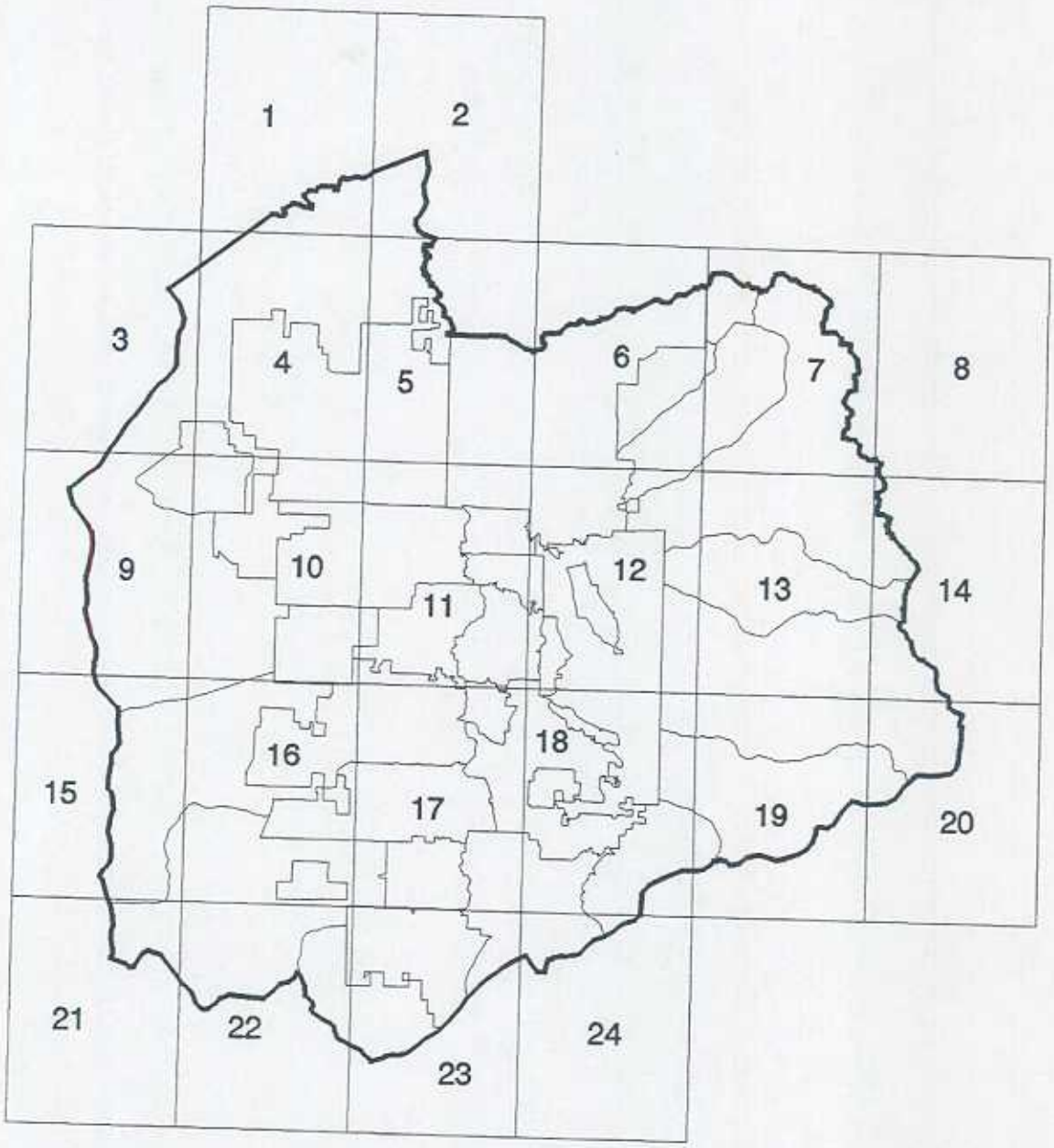


Figure 3. Lower Jordan River (Salt Lake County) study area boundaries overlaid by a template showing 7 1/2 minute USGS quadrangle maps.

## OPERATIONS USED IN LAND USE DATA ACQUISITION

### Aerial Photography

Aerial photography of the study area was conducted from June to August 1988. Mapping & Analytical Photographic Services Inc., Salt Lake City, Utah, photographed the study area using a turbo-charged Cessna TU-206 aircraft specially modified for aerial photography. An ARNAV R-40 Loran C navigation system kept the plane on line, while a Nikon F-3 35mm camera with 24mm lens in the photo well took the photos. All slides were taken on 35mm Ektachrome film and processed by Kodak labs. Slides were identified according to flight line number, cross-referenced on a special location map, and delivered to the division at different times between June and August 1988. The actual flight date was written on each slide frame by the division. Approximately 500 slides were delivered to the division covering the water-related land use in the study area. These slides may be viewed at, or copies purchased from, the offices of the Division of Water Resources, Planning Section, 1636 West North Temple, Salt Lake City, Utah.

### Field Mapping and Checking

Transferring information from 35mm slides to the field maps was accomplished between June and August, 1988. Slide cataloging, filing and mapping were done concurrently. Field checking and mapping was completed between July 10, and September 1, 1988. This process involved six people from the Division of Water Resources.

Digitizing and Processing

The data resulting from digitizing the field maps was processed through the Utah State Automated Geographic Reference Center (AGRC) during the fall and winter of 1988-89. The Lower Jordan River Study Area data are maintained at both the AGRC and the Division of Water Resources. Maps and data can be obtained from the AGRC at the Office of Planning and Budget, State Office Building, Salt Lake City, Utah.

A draft map of the cropland cover types was printed for each 7-1/2 min. quad. map for the purpose of checking the data. Each map was laid over the corresponding field map on a light table, and the cropland types and boundaries were double-checked for accuracy. Any corrections or additions were marked in red on the draft map for future updating. The corrected maps were updated and stored on the AGRC system.

## LOWER JORDAN RIVER STUDY AREA LAND USE DATA

The list of cover types and codes used in the 1988 Water-Related Land Use Inventory for the Lower Jordan River Study Area is shown in Table 1. This list was standardized in 1988 and is further discussed in the land use categories of this report. Figure 4 shows the general location of the water-related land use areas mapped in the Lower Jordan River Study Area. Figures 5 through 39 show the water-related land use for each hydrologic subarea. The explanation opposite each of these figures shows the land cover categories and the number of acres of land in each category.

Division policy is to publish its land use data in these types of reports. Detailed maps will not be included. With the establishment of the AGRC for the state of Utah, the division policy is to supply the land use data to them for further distribution. Detailed maps can be obtained from the AGRC.

Table 1. List of cover types and codes used in the 1988 Water-Related Land Use Inventory for the Lower Jordan River Study Area.

| Code | Cover Type | Comments/Explanations |
|---|---|---|
| I | Cropland | (Rotation Crops) |
| IA | Irrigated Cropland | |
| IA1 | Horticulture & Specialty Crops | |
| IA1a | Fruit | (Orchards) |
| IA1a1 | Cherry | |
| IA1a2 | Apple | |
| IA1a3 | Peach | |
| IA1a4 | Pear | |
| IA1a5 | Apricot | |
| IA1a6 | Other | |
| IA1b | Nuts | (Groves) |
| IA1b1 | Walnut | |
| IA1b2 | Pecan | |
| IA1b3 | Other | |
| IA1c | Vineyard | (Grapes) |
| IA1d | Bush Fruit | |
| IA1e | Berries | |
| IA1f | Other Horticulture | (Nurseries) |
| IA1g | Other Specialty Crops | |
| IA2 | Row and Close Grown Crops | |
| IA2a | Grain | |
| IA2a1 | Corn | |
| IA2a2 | Sorghum | |
| IA2a3 | Wheat | |
| IA2a4 | Barley | |
| IA2a5 | Oats | |
| IA2a6 | Other Grains | |
| IA2b | Vegetables | |
| IA2b1 | Potatoes | |
| IA2b2 | Onions | |
| IA2b3 | Beans | |
| IA2b4 | Tomatoes | |
| IA2b5 | Sweet Corn | |
| IA2b6 | Other | (Melons, Squash, Etc.) |

Table 1. Continued.

| Code | Cover Type | Comments/Explanations |
|---|---|---|
| IA3 | Forage Crops | |
| IA3a | Alfalfa | |
| IA3b | Grass Hay | |
| IA3c | Grass/Turf | |
| IA3d | Pasture | (Turf Farms) |
| IA3e | Other | |
| IA4 | Other | |
| IA4a | Fallow | (Plowed or disked.) |
| IA4b | Idle | (Overgrown more than one season.) |
| IB | Non-Irrigated Cropland | (Rotation Crops) |
| IB1 | Row and Close-Grown Crops | |
| IB1a | Grain, Beans, Seeds | |
| IB1a1 | Wheat | |
| IB1a2 | Other Grains | (Barley, Etc.) |
| IB1a3 | Dry Beans | |
| IB1a4 | Safflower | |
| IB1a5 | Other | |
| IB2 | Hayland Crops | |
| IB2a | Alfalfa | |
| IB2b | Pasture | |
| IB2c | Other | |
| IB3 | Other | |
| IB3a | Fallow | (Plowed, Stubble, Mulch) |
| IB3b | Idle | (Overgrown more than one season.) |
| II | Grassy/Phreato./Open Water Areas | |
| IIA | Grassy Aspect | |
| IIA2a | Irrigated | |
| IIA2a1 | Pasture | (Subject to spring flooding.) |
| IIA2a2 | Hayland | (Subject to spring flooding.) |
| IIA2b | Non-Irrigated | |
| IIA2b1 | Pasture | (Receives subsurface water.) |
| IIA2b2 | Hayland | (Receives subsurface water.) |
| IIA2c | Non-Agricultural Use | (Receives subsurface water.) |
| IIB | Cattail/Bulrush Aspect | |

Table 1. Continued.

| Code | Cover Type | Comments/Recommendations |
|---|---|---|
| IIC | Wet Flats | (Mud flats w/little or no vgttn.) |
| IID | Shrub Aspect | (Salt Brush, Sagebrush) |
| IIE | Riparian | |
| IIE1 | Forested Aspect | (Cottonwoods, Birch) |
| IIE2 | Shrub Aspect | (Willows) |
| IIF | Open Water | |
| IIF1 | Streams | |
| IIF2 | Reservoirs | (Man-Made) |
| IIF3 | Ponds & Lakes | |
| IIF4 | Other | |
| IIF4a | Temporary Flooded | |
| IIF4b | Sewage Lagoon | |
| IIF4c | Evaporation Pond | |
| IIF5 | Salt Water | (Salt/Salty Lakes) |
| III | Range Land and Forest Land | |
| IIIA | Alpine Plant Communities | |
| IIIB | Conifer | |
| IIIB1 | Douglas Fir - White Fir | |
| IIIB2 | Ponderosa Pine | |
| IIIB3 | Fir - Spruce | |
| IIIB4 | Lodgepole Pine | |
| IIIB5 | Pinion Pine - Juniper | |
| IIIB6 | Other | |
| IIIC | Deciduous | |
| IIIC1 | Aspen | |
| IIIC2 | Mountain Brush | (Oak Brush, Maples, Chaparral) |
| IIIC3 | Other | |
| IIID | Grass Aspect | |
| IIID1 | Dry Pastures - Improved | (Chained and reseeded) |
| IIID2 | Native Grasses | |
| IIID3 | Other | (Forbs) |
| IIIE | Shrub Aspect | |
| IIIE1 | Northern Desert Shrub | |
| IIIE1a | Sagebrush | (Shadscale, Greasewood, Halogeton) |

Table 1. Continued.

| Code | Cover Type | Comments/Explanations |
|---|---|---|
| IIIE1b | Other | |
| IIIE2 | Southern Desert Shrubs | |
| IIIE2a | Creosote Bush | |
| IIIE2b | Other | (Forbs, Annual Grasses) |
| IIIE3 | Salt Desert Shrubs | |
| IIIE3a | Shascale | |
| IIIE3b | Greasewood | |
| IIIE3c | Saltbrush | |
| IIIE3d | Desert Molley | |
| IIIE3e | Other | (Halogeton) |
| IV | Barren Lands | |
| IVA | Bare Soil/Sand | |
| IVA1 | Dry Salt Flats | |
| IVA2 | Beaches | |
| IVA3 | Sandy Areas Other Than Beaches | (Desert Sand Dunes) |
| IVA4 | Other | |
| IVB | Rock Outcrops | |
| IVC | Excavated Lands | (Strip Mines, Quarries, Gravel Pits) |
| IVD | Other | |
| V | Built-Up Land | |
| VA | Farmsteads | |
| VA1 | Buildings/Homes | |
| VA2 | Open Spaces | (Feed Lots, Etc.) |
| VB | Residential | |
| VB1 | Buildings/Homes | (High Density) |
| VB2 | Buildings/Homes | (Low Density) |
| VB3 | Open Spaces | (Parks, Golf Courses) |
| VB4 | Idle Spaces | (Not Irrigated) |
| VC | Commercial/Industrial | |
| VC1 | Commercial | |
| VC2 | Industrial | |
| VC3 | Open Spaces | |
| VD | Transportation, Communications, Utilities | |
| VE | Other | |

Land Cover Area Summary for Figure 4.
Lower Jordan River Study Area.

| Code | Land Cover | Acres |
|---|---|---|
| IA1a | Fruit | 177.68 |
| IA1f | Other Horticulture | 21.05 |
| IA2a | Grain | 4,219.47 |
| IA2a1 | Corn | 1,467.94 |
| IA2b | Vegetables | 318.79 |
| IA2b1 | Potatoes | 18.81 |
| IA2b2 | Onions | 12.14 |
| IA2c | Other Row Crops | 4.92 |
| IA3a | Alfalfa | 8,285.39 |
| IA3b | Grass Hay | 627.17 |
| IA3c | Grass/Turf | 1,077.40 |
| IA3d | Pasture | 8,765.71 |
| IA4a | Fallow | 817.71 |
| IA4b | Idle Overgrown | 2,000.51 |
| IB1a | Dry Grain/Beans/Seeds | 14,771.46[1] |
| IB2a | Dry Alfalfa | 96.80[1] |
| IB2b | Dry Pasture | 627.33[1] |
| IB3a | Dry Fallow | 3,463.24[1] |
| IB3b | Dry Idle | 4,181.12[1] |
| IIA1a | Pasture (surf. & sub.) | 1,096.77 |
| IIA1b | Grass Hay (surf. & sub.) | 207.66 |
| IIA2a | Sub. Irr. Pasture | 601.62 |
| IIA2b | Sub. Irr. Grass Hay | 58.75 |
| IIB | Cattail/Bullrush Aspect | 446.00 |
| IIB-E | Wet/Vegetation Asp. | 16,049.57 |
| IIC | Wet Flats | 10,753.32[2] |
| IIE | Riparian | 878.92 |
| IIF | Open Water | 1,061.73 |
| IIF2 | Reservoirs | 3,933.84 |
| IIF4a | Temporary Flooded | 49.07 |
| IIF4b | Sewage Lagoon | 18.49 |
| IIF4c | Evaporation Pond | 9,017.67[3] |
| IIF5 | Salt Water | 853.86[4] |
| IVC | Excavated Lands | 10,662.30 |
| VA1 | Rural Residential | 869.46 |
| VB1 | Residential (hi den) | 87,001.83 |
| VB2 | Residential (lo den) | 1,722.79 |
| VB3 | Open Spaces | 3,193.88 |
| VC1 | Commercial | 5,399.14 |
| VC2 | Industrial | 15,840.52 |
| VC3 | Open Spaces | 2,114.24 |
| Total Water-Related Land Use | | 222,786.07 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the numbers of acres mapped, not the total numbers of acres in the subarea.

[2]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Wet Flats are generally mapped if they fall within or border irrigated lands. Wet Flats alone are normally not mapped. Acres shown in the table reflect only the numbers of acres mapped, not the total numbers of acres in the subarea.

[3]Some evaporation ponds were not photographed with 35 mm slides. Data were obtained from LANDSAT imagery.

[4]The Salt Water category includes: the Great Salt Lake, Evaporation ponds within the shoreline of the Great Salt Lake such as those at AMAX or Great Salt Lake Minerals Co., the "West Desert Pond", and return flows from the pond to the main body of the Great Salt Lake. This acreage (obtained from existing maps and LANDSAT imagery) represents the Great Salt Lake at an average surface elevation (4200') and the West Desert Pond at maximum surface elevation (4217').

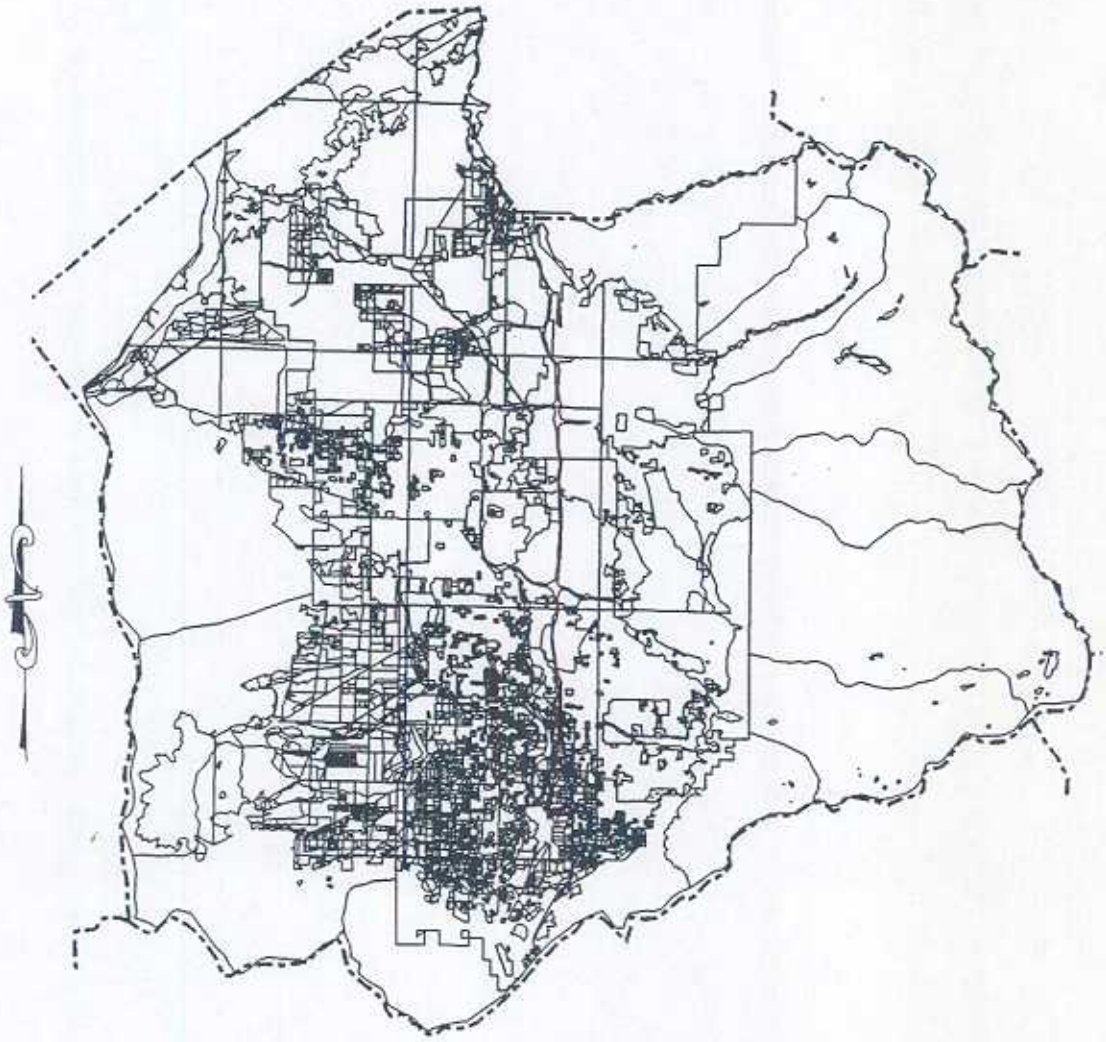

Figure 4. Water-related land use mapped areas for the Lower Jordan River(Salt Lake County) Study Area.

Land Cover Area Summary for Figure 5.
Traverse Mountains West (04-02-001) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| | Total Water-Related Land Use | 0.00 |
| | Other Land | 9,328.31 |
| | Total Land in Subarea | 9,328.31 |

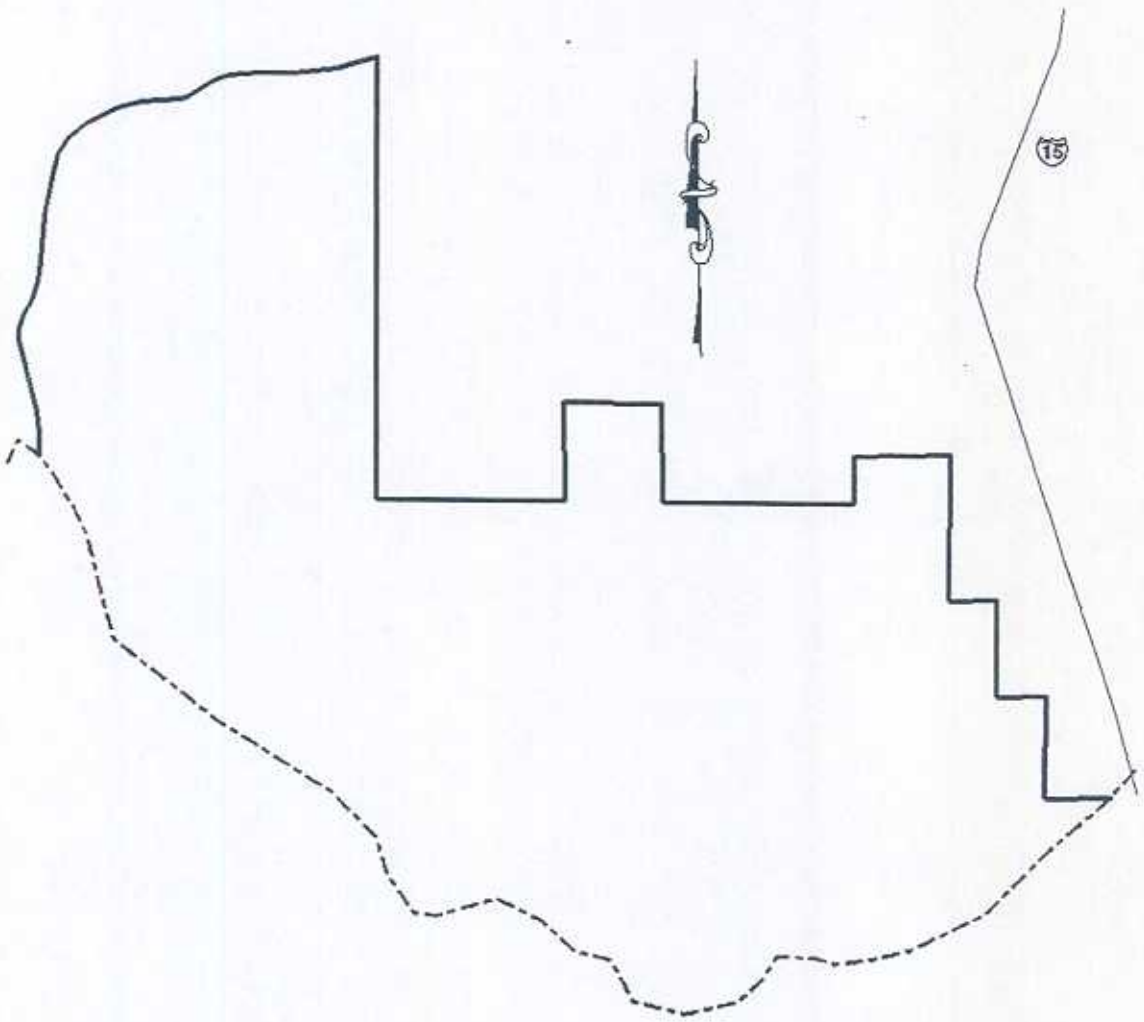


Figure 5. Water-related land use coverage of the Traverse Mountains West (04-02-001) subarea.

Land Cover Area Summary for Figure 6.
Butterfield/Rose Canyon (04-02-002-01) subsubarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA1a | Fruit | 11.61 |
| IA2a | Grain | 521.31 |
| IA2a1 | Corn | 170.82 |
| IA3a | Alfalfa | 915.16 |
| IA3b | Grass Hay | 16.35 |
| IA3c | Grass/Turf | 140.75 |
| IA3d | Pasture | 375.59 |
| IA4a | Fallow | 137.97 |
| IA4b | Idle | 166.34 |
| IB1a | Grain/Beans/Seeds | 2,880.07[1] |
| IB2b | Pasture | 108.46[1] |
| IB3a | Fallow | 954.20[1] |
| IB3b | Idle | 228.74[1] |
| IIF | Open Water | 43.88 |
| IVC | Excavated Lands | 3,057.68 |
| VA | Farmsteads | 142.16 |
| VB1 | Bldgs/Homes (hi den) | 277.48 |
| VB3 | Open Spaces | 3.11 |
| VC1 | Commercial | 2.13 |
| VC3 | Open Space | 7.39 |
| Total Water-Related Land Use | | 10,161.20 |
| Other Land | | 19,074.41 |
| Total Land in Subarea | | 29,235.61 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

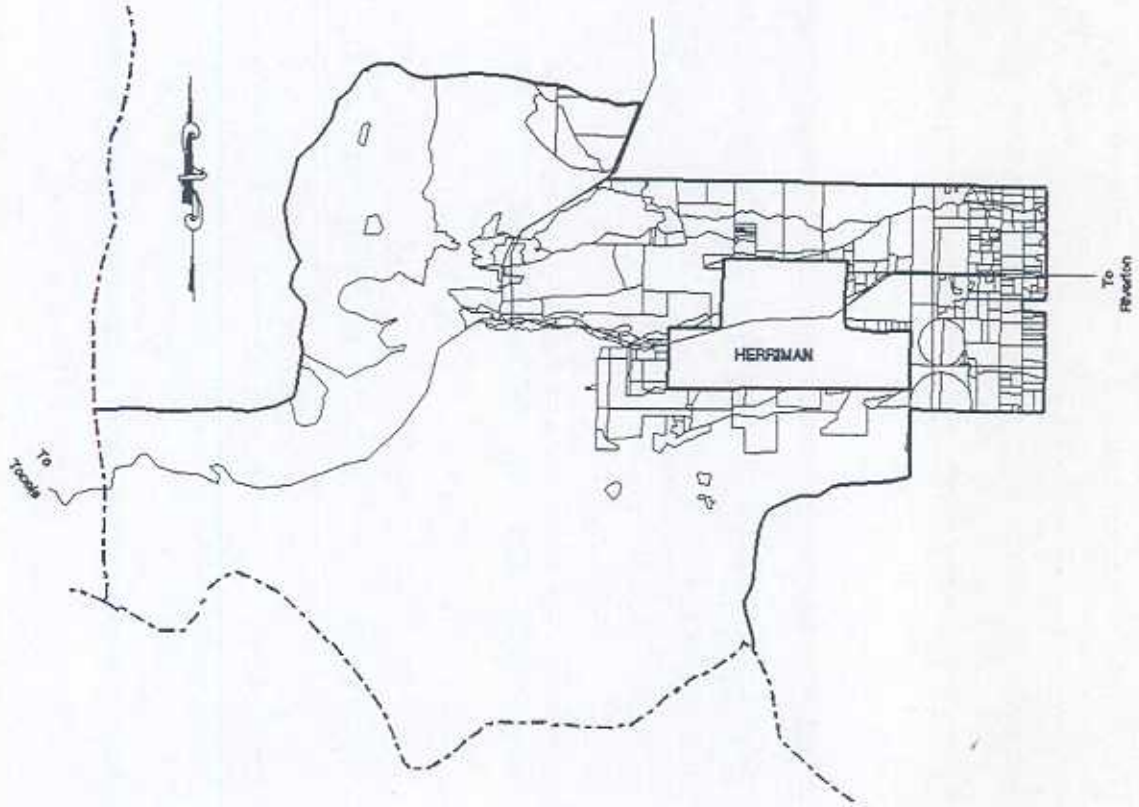


Figure 6. Water-related land use coverage of the Butterfield/Rose Canyon (04-02-002-01) subsubarea.

Land Cover Area Summary for Figure 7.
Herriman (04-02-002-02) subsubarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA2a | Grain | 20.65 |
| IA2a1 | Corn | 7.81 |
| IA3a | Alfalfa | 209.26 |
| IA3c | Grass/Turf | 24.02 |
| IA3d | Pasture | 157.78 |
| IA4a | Fallow | 34.75 |
| IA4b | Idle | 20.30 |
| IB1a | Grain/Beans/Seeds | 463.63[1] |
| IB3a | Fallow | 450.22[1] |
| IB3b | Idle | 72.35[1] |
| VA | Farmsteads | 63.55 |
| VB1 | Bldgs/Homes (hi den) | 238.29 |
| VC3 | Open Space | 32.61 |
| Total Water-Related Land Use | | 1,795.22 |
| Other Land | | 50.38 |
| Total Land in Subarea | | 1,845.60 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

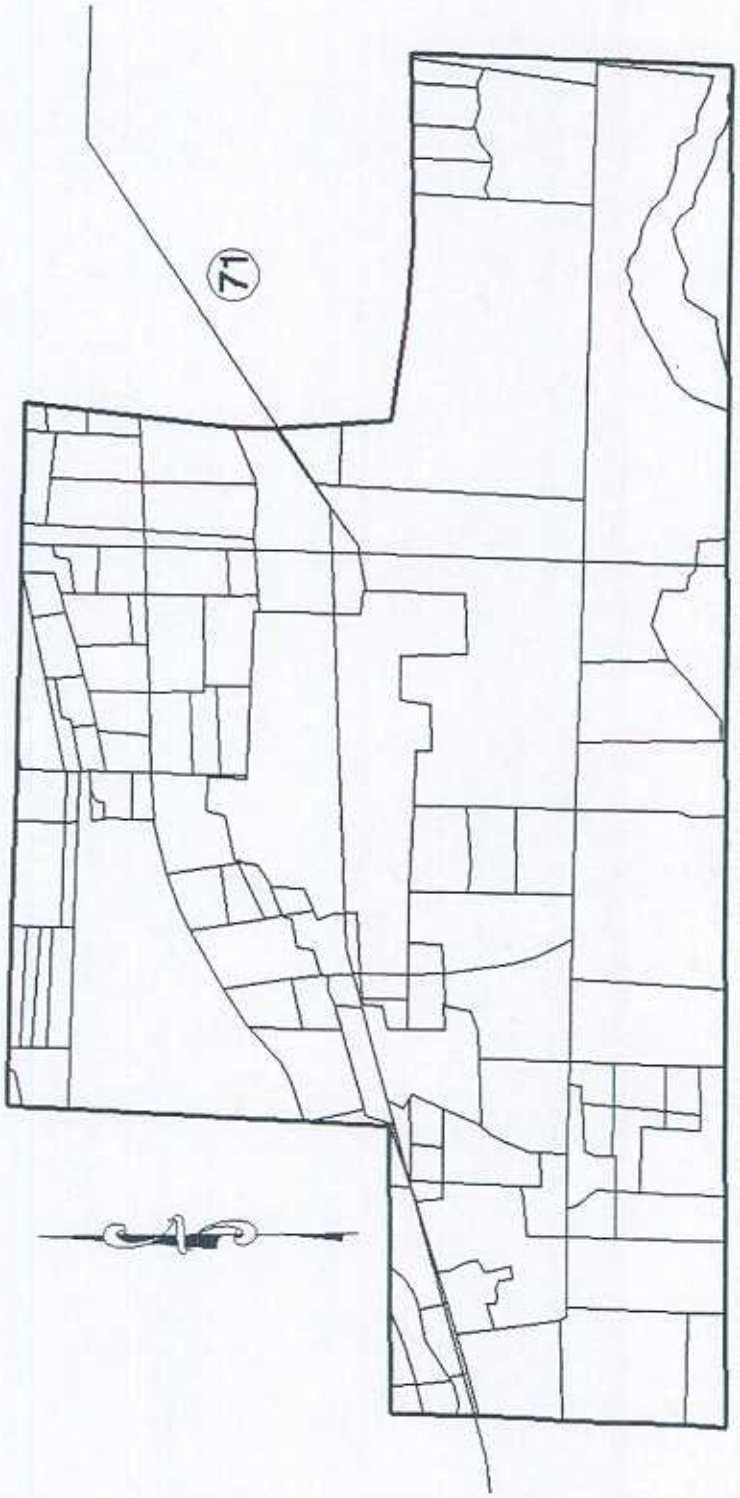


Figure 7. Water-related land use coverage of the Herriman (04-02-002-02) subsubarea.

Land Cover Area Summary for Figure 8.
Bingham Canyon (04-02-003) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA3a | Alfalfa | 1.02 |
| IB1a | Grain/Beans/Seeds | 2,425.14[1] |
| IB2b | Pasture | 169.28[1] |
| IB3a | Fallow | 185.62[1] |
| IIE | Riparian | 84.69 |
| IIF | Open Water | 50.52 |
| IIF4c | Evaporation Pond | 16.68 |
| IVC | Excavated Lands | 4,601.57 |
| VA | Farmsteads | 25.41 |
| VB1 | Bldgs/Homes (hi den) | 79.03 |
| VB2 | Bldgs/Homes (lo den) | 0.04 |
| VB3 | Open Spaces | 13.29 |
| VC1 | Commercial | 160.84 |
| VC2 | Industrial | 241.70 |
| Total Water-Related Land Use | | 8,054.83 |
| Other Land | | 16,412.16 |
| Total Land in Subarea | | 24,466.99 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

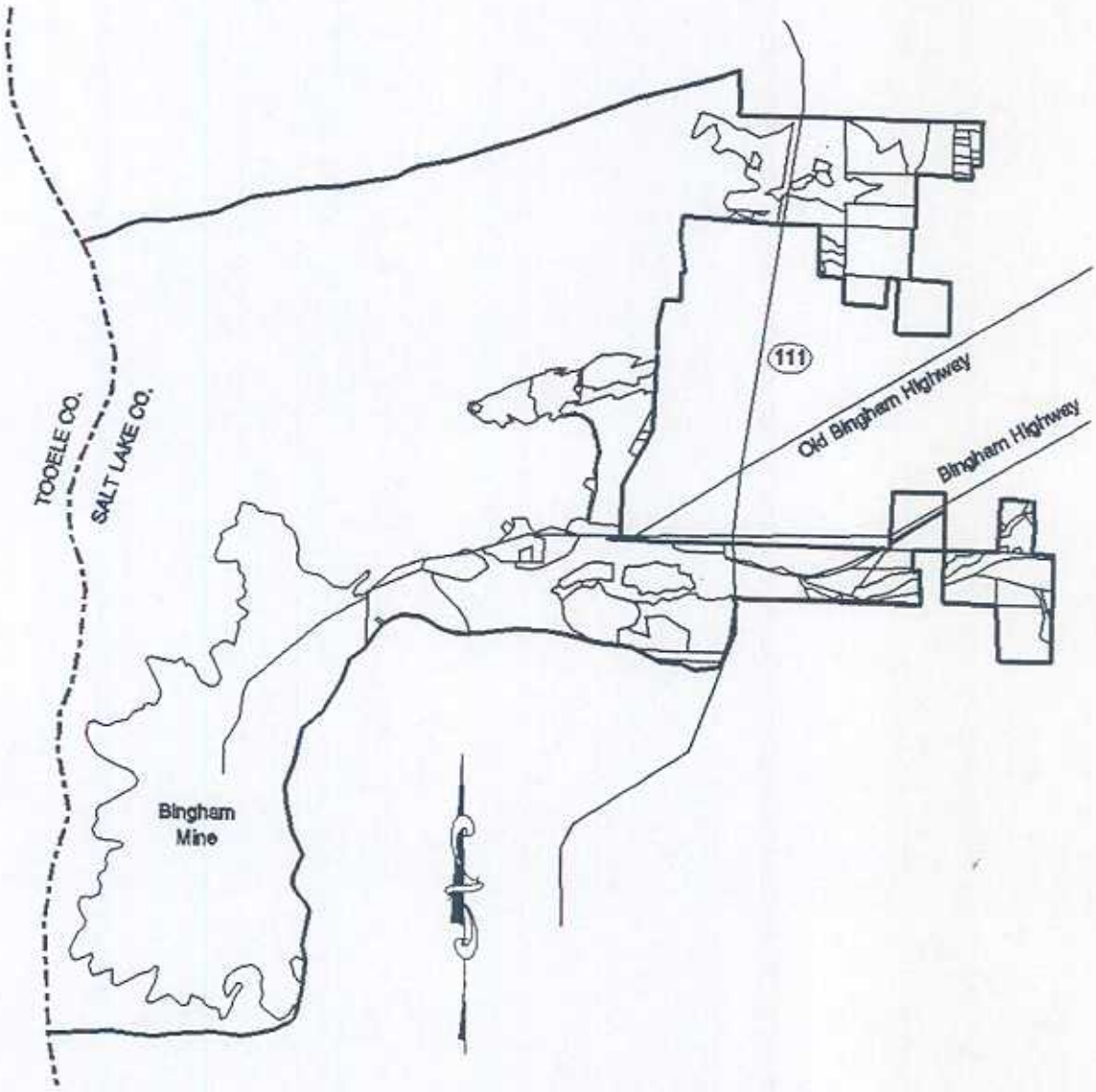


Figure 8. Water-related land use coverage of the Bingham Canyon (04-02-003) subarea.

Land Cover Area Summary for Figure 9.
Bear/Bells Canyon (04-02-004) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IIF | Open Water | 12.72 |
| Total Water-Related Land Use | | 12.72 |
| Other Land | | 8,796.82 |
| Total Land in Subarea | | 8,809.54 |

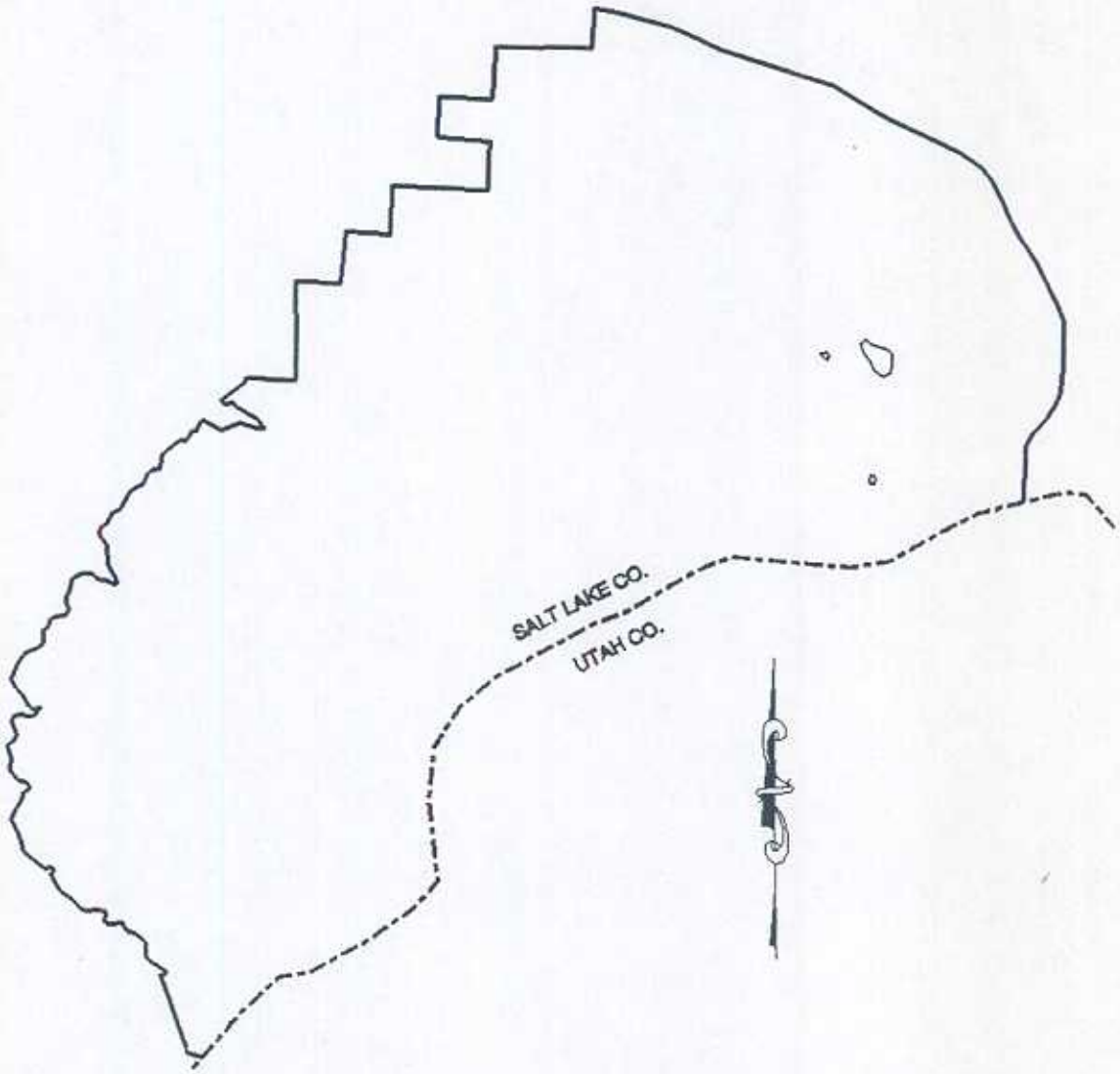


Figure 9. Water-related land use coverage of the Bear/Bells Canyon (04-02-004) subarea.

Land Cover Area Summary for Figure 10.
Little Cottonwood Canyon (04-02-005) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IIF | Open Water | 34.73 |
| VC2 | Industrial | 48.70 |
| Total Water-Related Land Use | | 83.43 |
| Other Land | | 18,551.35 |
| Total Land in Subarea | | 18,634.78 |

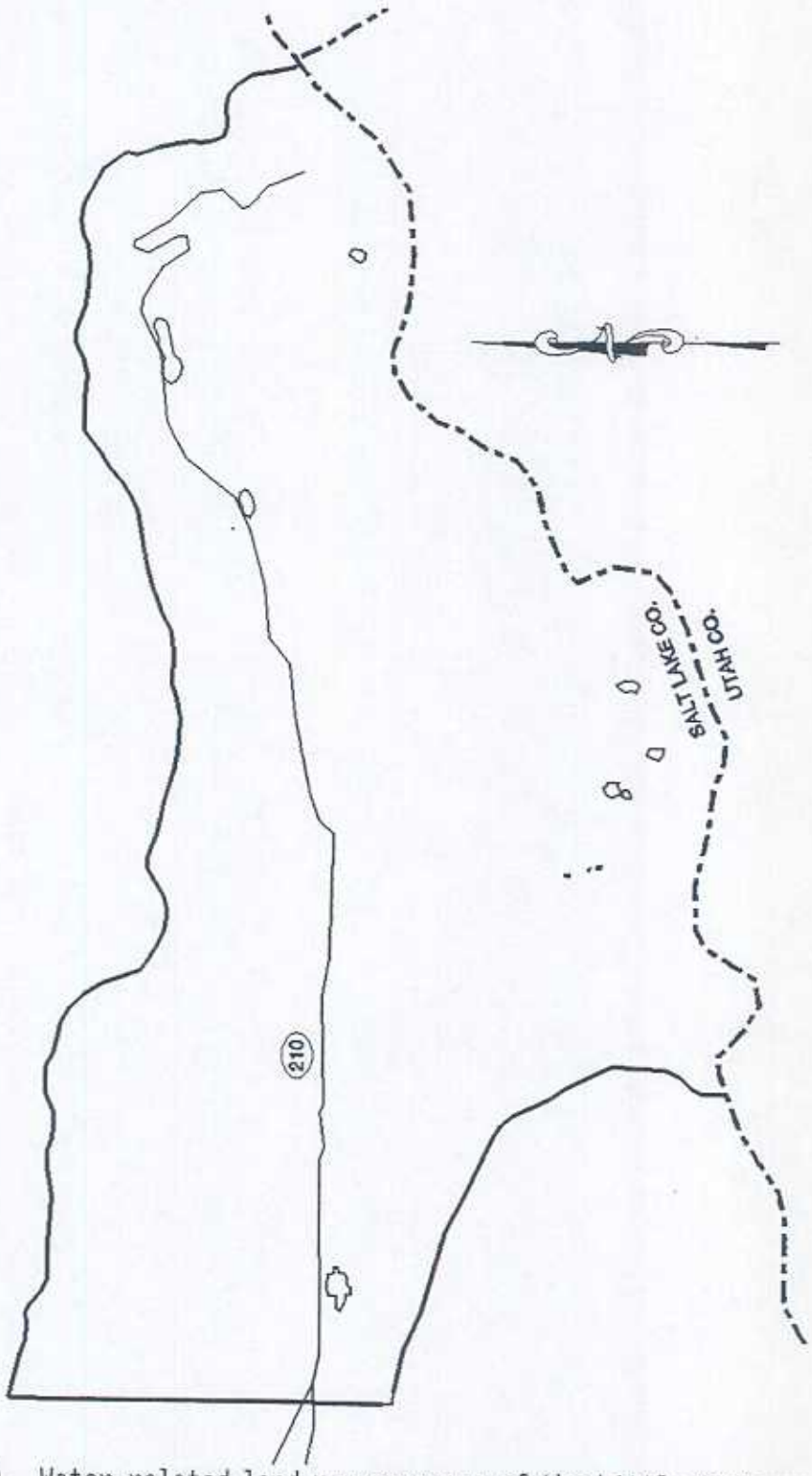


Figure 10. Water-related land use coverage of the Little Cottonwood Canyon (04-02-005) subarea.

Land Cover Area Summary for Figure 11.
Big Cottonwood Canyon (04-02-006) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IIF | Open Water | 95.85 |
| VB1 | Bldgs/Homes (hi den) | 5.51 |
| VB2 | Bldgs/Homes (lo den) | 164.47 |
| Total Water-Related Land Use | | 265.83 |
| Other Land | | 35,875.88 |
| Total Land in Subarea | | 36,141.71 |

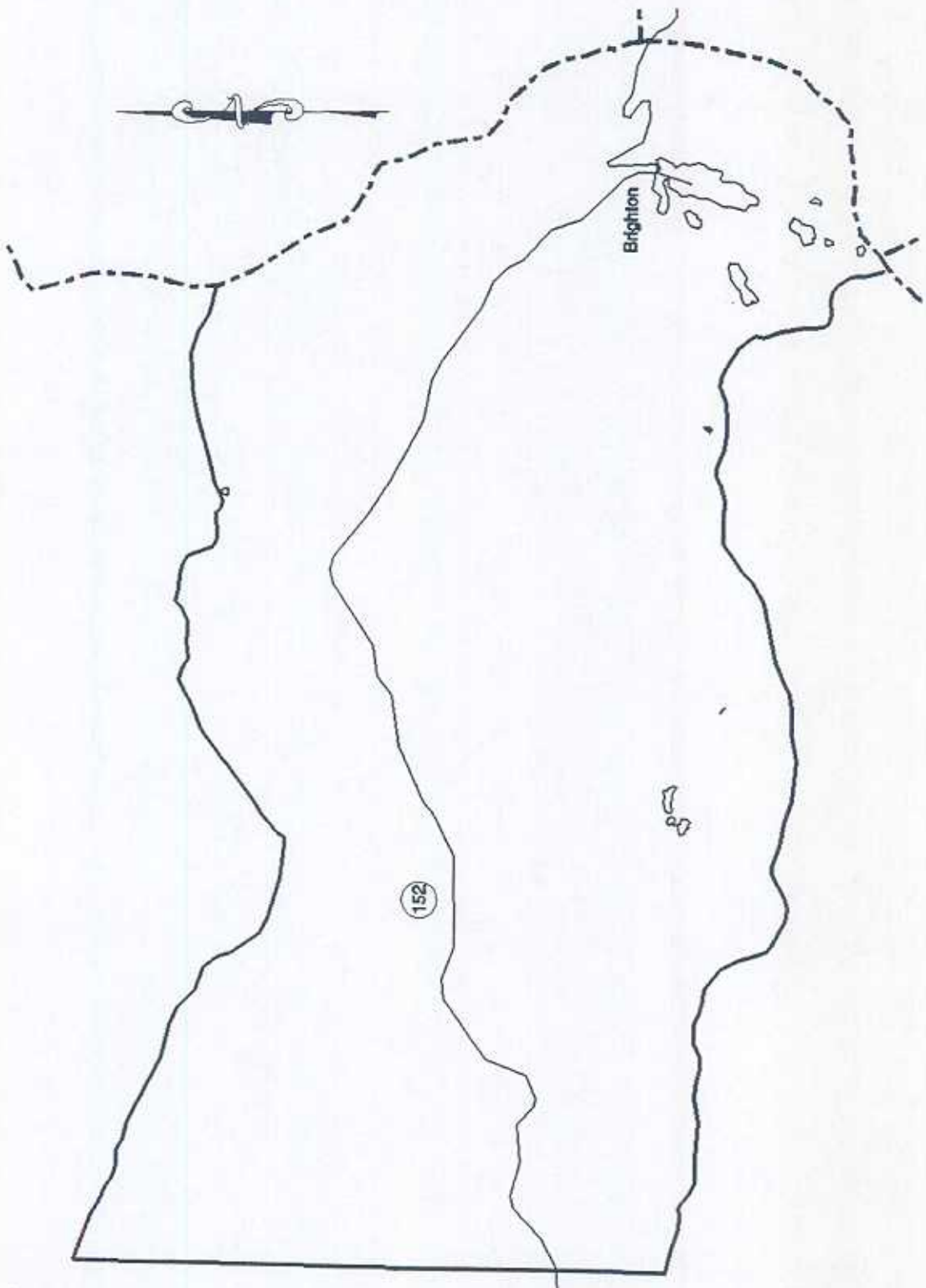


Figure 11. Water-related land use coverage of the Big Cottonwood Canyon (04-02-006) subarea.

Land Cover Area Summary for Figure 12.
Mill Creek Canyon (04-02-007) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| | Total Water-Related Land Use | 0.00 |
| | Other Land | 13,891.10 |
| | Total Land in Subarea | 13,891.10 |

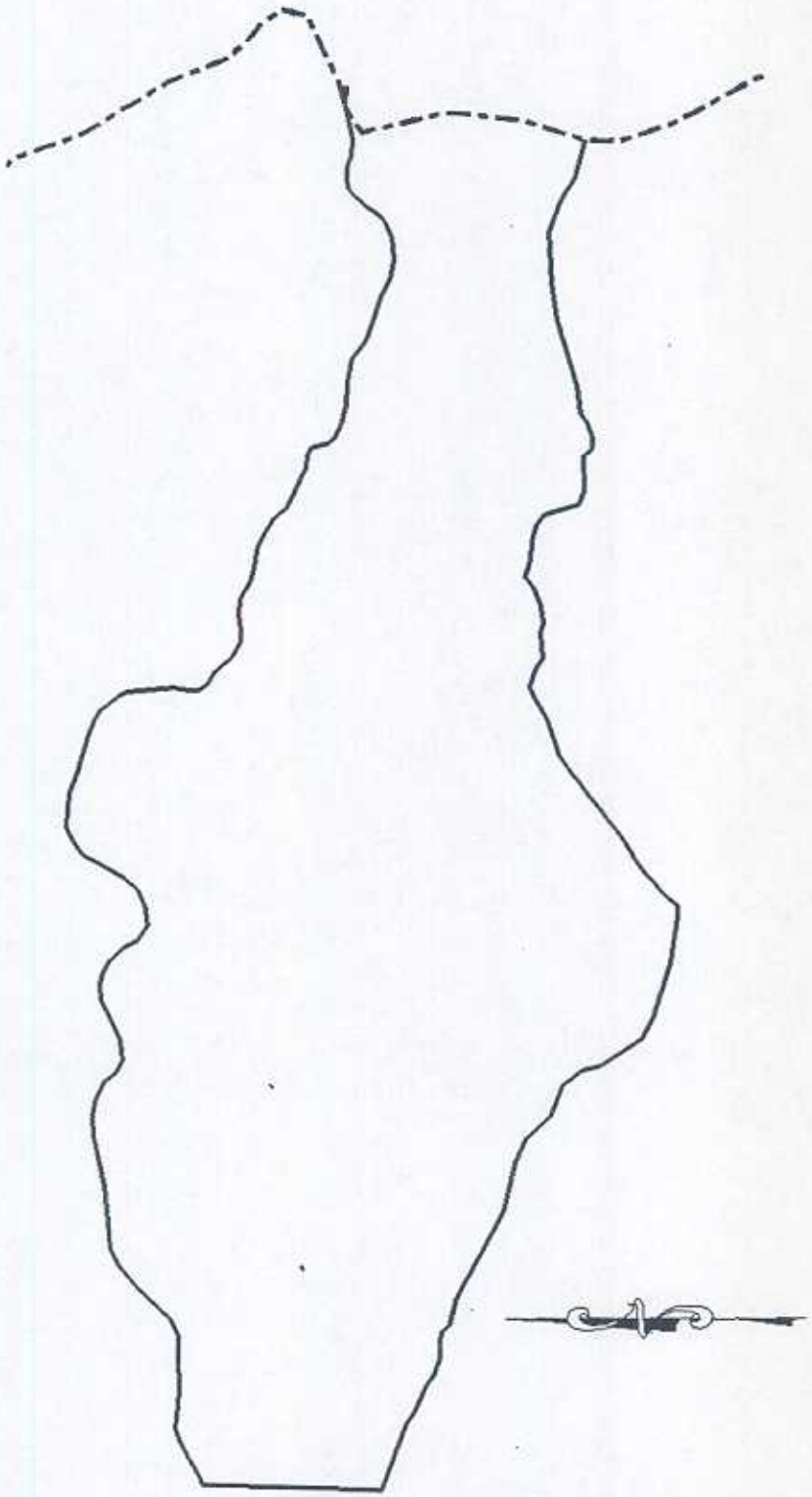

Figure 12. Water-related land use coverage of the Mill Creek Canyon (04-02-007) subarea.

Land Cover Area Summary for Figure 13.
Parleys Canyon (04-02-008) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA4a | Fallow | 68.79 |
| IIE | Riparian | 53.13 |
| IIF | Open Water | 75.48 |
| VB | Residential | 3.85 |
| VB3 | Open Spaces | 158.18 |
| Total Water-Related Land Use | | 359.43 |
| Other Land | | 33,589.84 |
| Total Land in Subarea | | 33,949.27 |

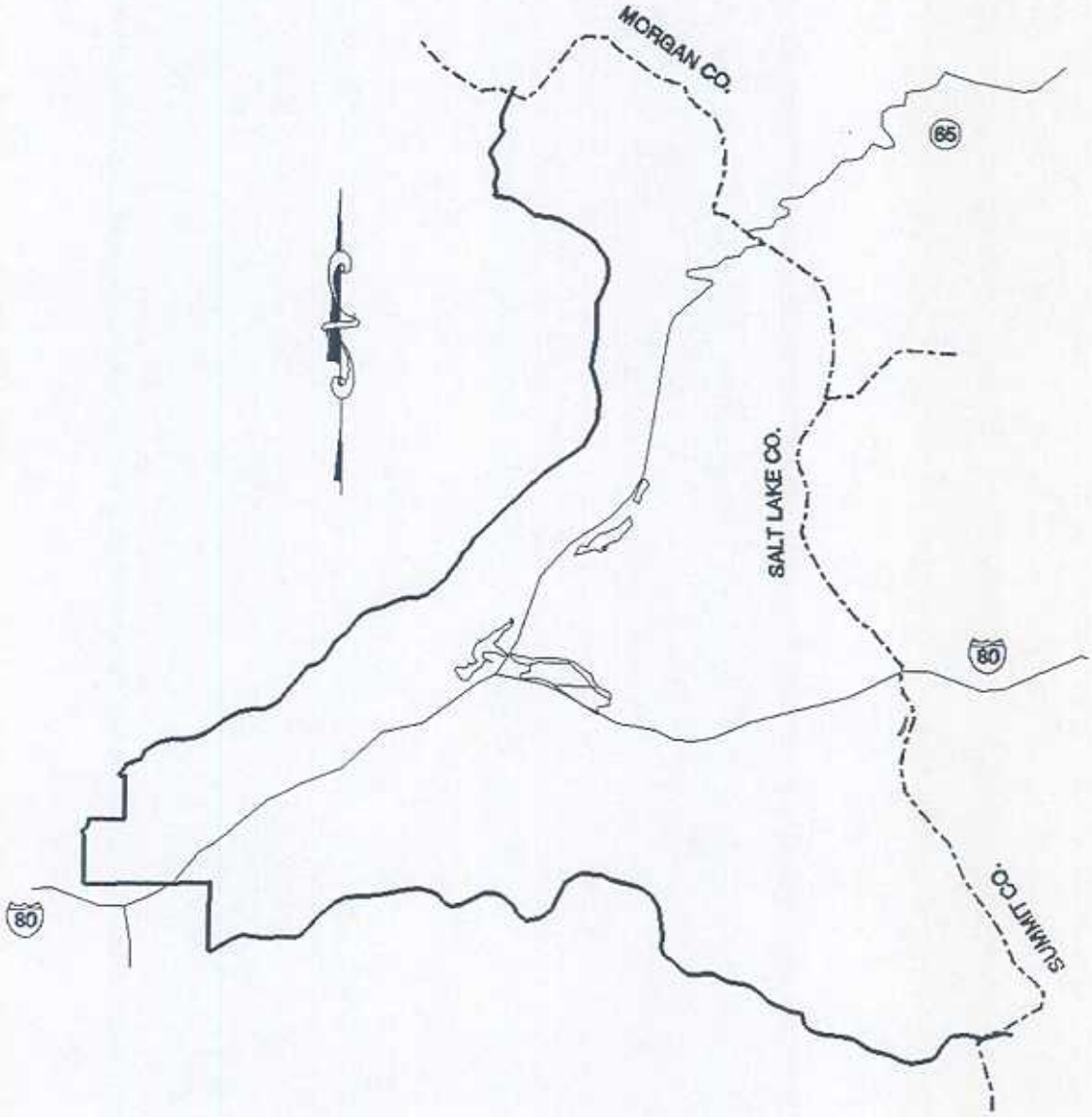


Figure 13. Water-related land use coverage of the Parleys Canyon (04-02-008) subarea.

Land Cover Area Summary for Figure 14.
Emigration Canyon (04-02-009) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| VB2 | Bldgs/Homes (lo den) | 359.83 |
| Total Water-Related Land Use | | 359.83 |
| Other Land | | 12,290.46 |
| Total Land in Subarea | | 12,650.29 |

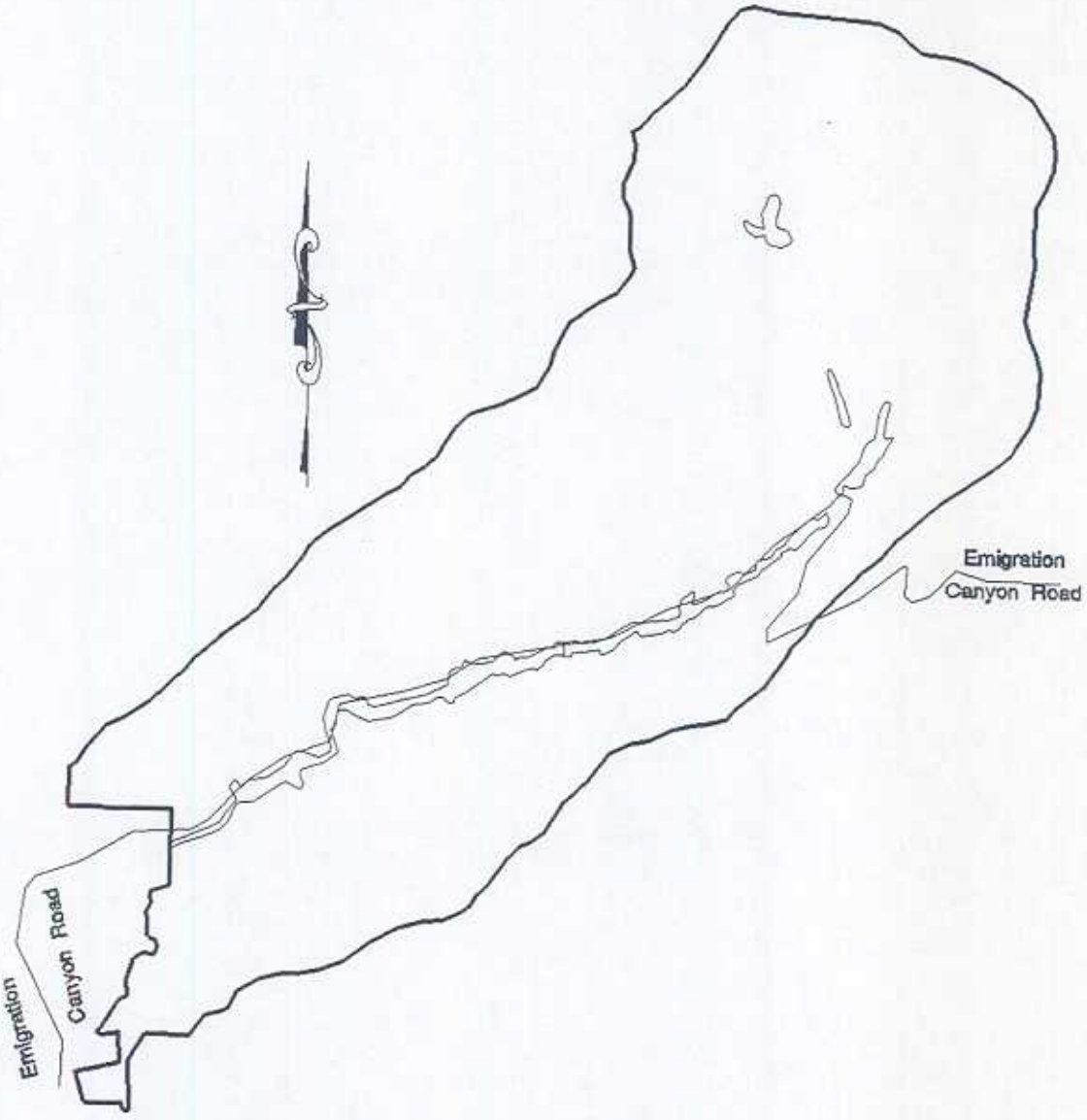


Figure 14. Water-related land use coverage of the Emigration Canyon (04-02-009) subarea.

Land Cover Area Summary for Figure 15.
Red Butte Canyon (04-02-010) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IIF | Open Water | 12.88 |
| Total Water-Related Land Use | | 12.88 |
| Other Land | | 5,129.69 |
| Total Land in Subarea | | 5,142.57 |

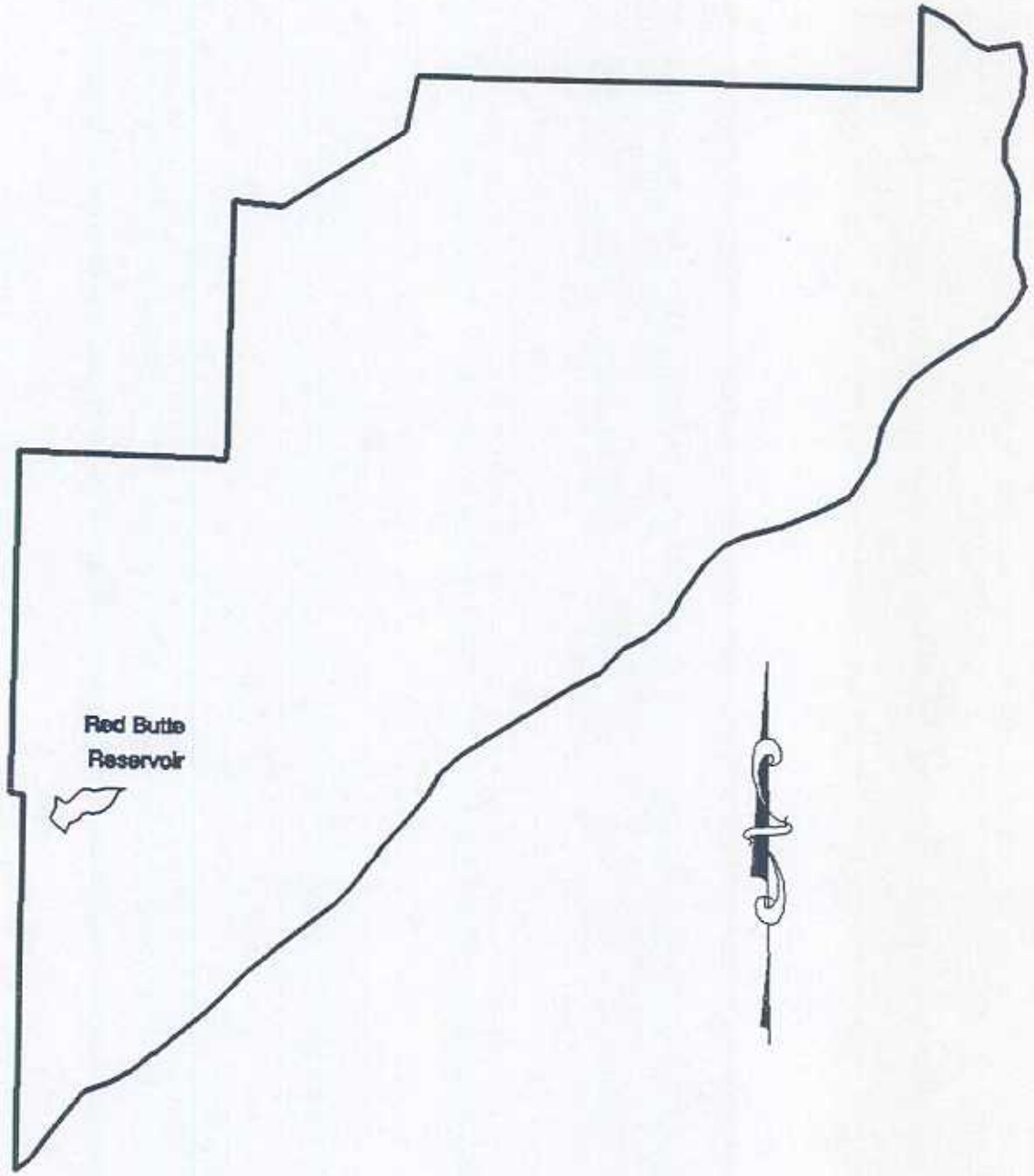


Figure 15. Water-related land use coverage of the Red Butte Canyon (04-02-010) subarea.

Land Cover Area Summary for Figure 16.
City Creek Canyon (04-02-011) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IIF | Open Water | 18.31 |
| Total Water-Related Land Use | | 18.31 |
| Other Land | | 2,345.31 |
| Total Land in Subarea | | 2,363.62 |

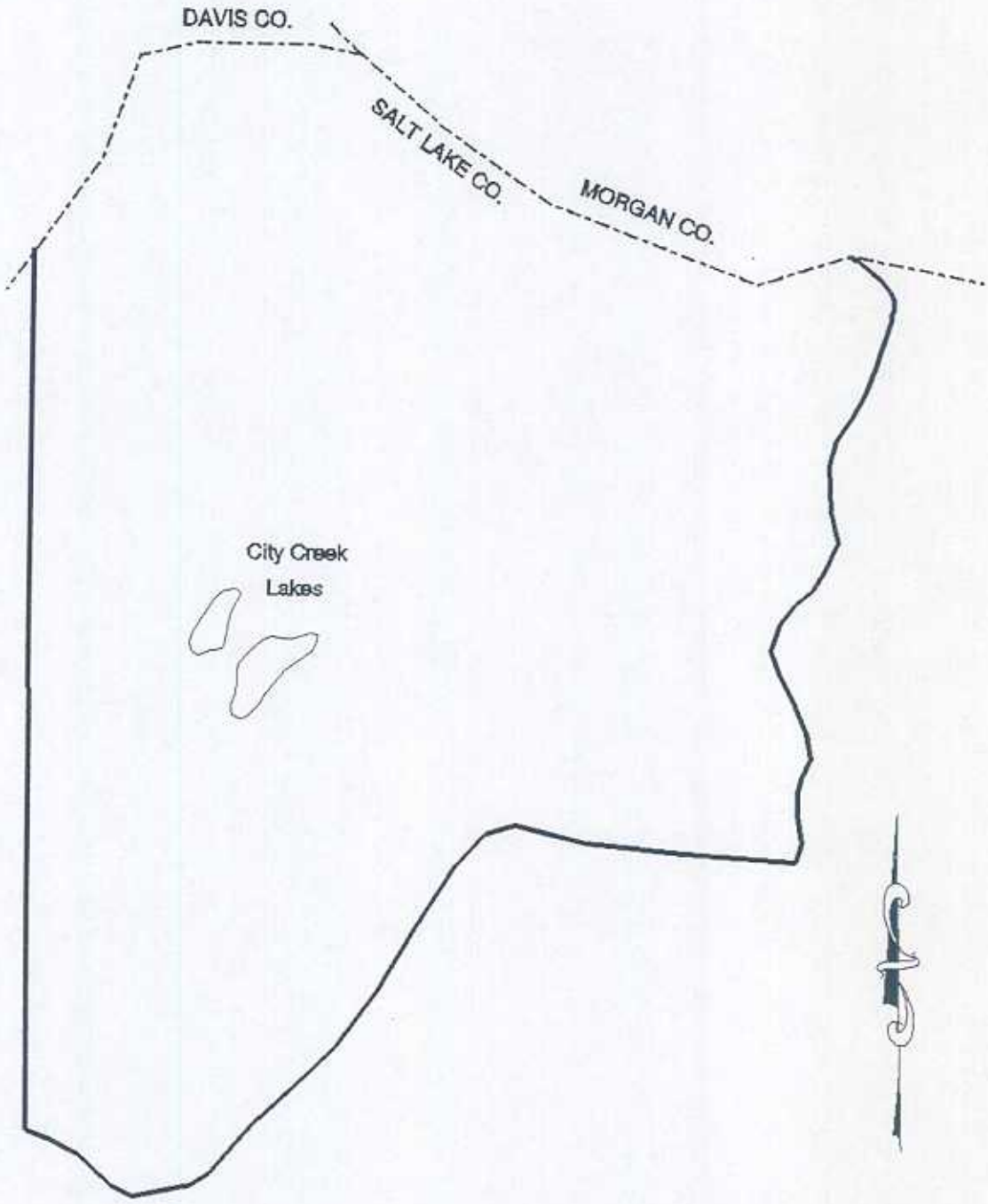


Figure 16. Water-related land use coverage of the City Creek Canyon (04-02-011) subarea.

Land Cover Area Summary for Figure 17.
Tailings Pond (04-02-012) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IIF | Open Water | 4.62 |
| IIF4c | Evaporation Pond | 6,809.97 |
| VC2 | Industrial | 0.01 |
| Total Water-Related Land Use | | 6,814.60 |
| Other Land | | 190.92 |
| Total Land in Subarea | | 7,005.52 |

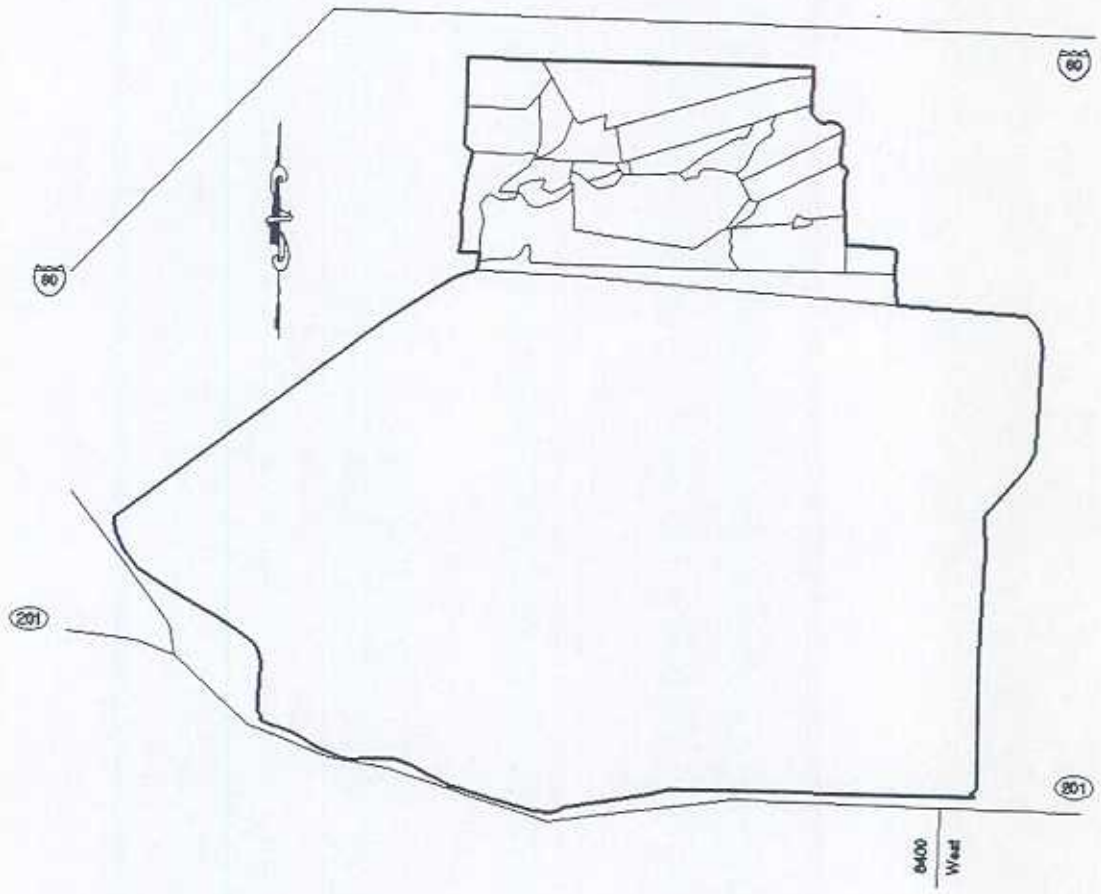


Figure 17. Water-related land use coverage of the Tailings Pond (04-02-011) subarea.

Land Cover Area Summary for Figure 18.
Harkers/Coon Canyon (04-02-013) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA1a | Fruit | 5.27 |
| IA2a | Grain | 76.55 |
| IA2a1 | Corn | 9.46 |
| IA3a | Alfalfa | 13.41 |
| IA3b | Grass Hay | 39.39 |
| IA3d | Pasture | 349.16 |
| IA4b | Idle | 10.53 |
| IB1a | Grain/Beans/Seeds | 20.05[1] |
| IB2a | Alfalfa | 0.27[1] |
| IB2b | Pasture | 187.11[1] |
| IB3a | Fallow | 17.62[1] |
| IB3b | Idle | 41.29[1] |
| IIA2a | Pasture | 22.27 |
| IIA2b | Hayland | 91.63 |
| IIA2c | Non-Agricultural Use | 496.95 |
| IIB | Cattail/Bullrush Asp | 236.10 |
| IIB-E | Wet/Vegetation Asp. | 14,591.46 |
| IIC | Wet Flats | 10,573.79[2] |
| IIE | Riparian | 26.38 |
| IIF | Open Water | 402.63 |
| IIF2 | Reservoirs | 3,873.97 |
| IIF4a | Temporary Flooded | 48.63 |
| IIF4c | Evaporation Pond | 1,352.34 |
| IIF5 | Salt Water | 853.86[3] |
| VA | Farmsteads | 16.43 |
| VB1 | Bldgs/Homes (hi den) | 30.40 |
| VB2 | Bldgs/Homes (lo den) | 2.75 |
| VB3 | Open Spaces | 12.59 |
| VC | Commercial/Industr. | 2.85 |
| VC1 | Commercial | 8.01 |
| VC2 | Industrial | 2,498.48 |
| VC3 | Open Space | 272.77 |
| Total Water-Related Land Use | | 36,184.40 |
| Other Land | | 35,966.72 |
| Total Land in Subarea | | 72,151.12 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

[2]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Wet Flats are generally mapped if they fall within or border irrigated lands. Wet Flats alone are normally not mapped. Acres shown in the table reflect only the numbers of acres mapped, not the total numbers of acres in the subarea.

[3]The Salt Water category includes: the Great Salt Lake, Evaporation ponds within the shoreline of the Great Salt Lake such as those at AMAX or Great Salt Lake Minerals Co.. This acreage (obtained from existing maps and LANDSAT imagery) represents the Great Salt Lake at an average surface elevation (4200').

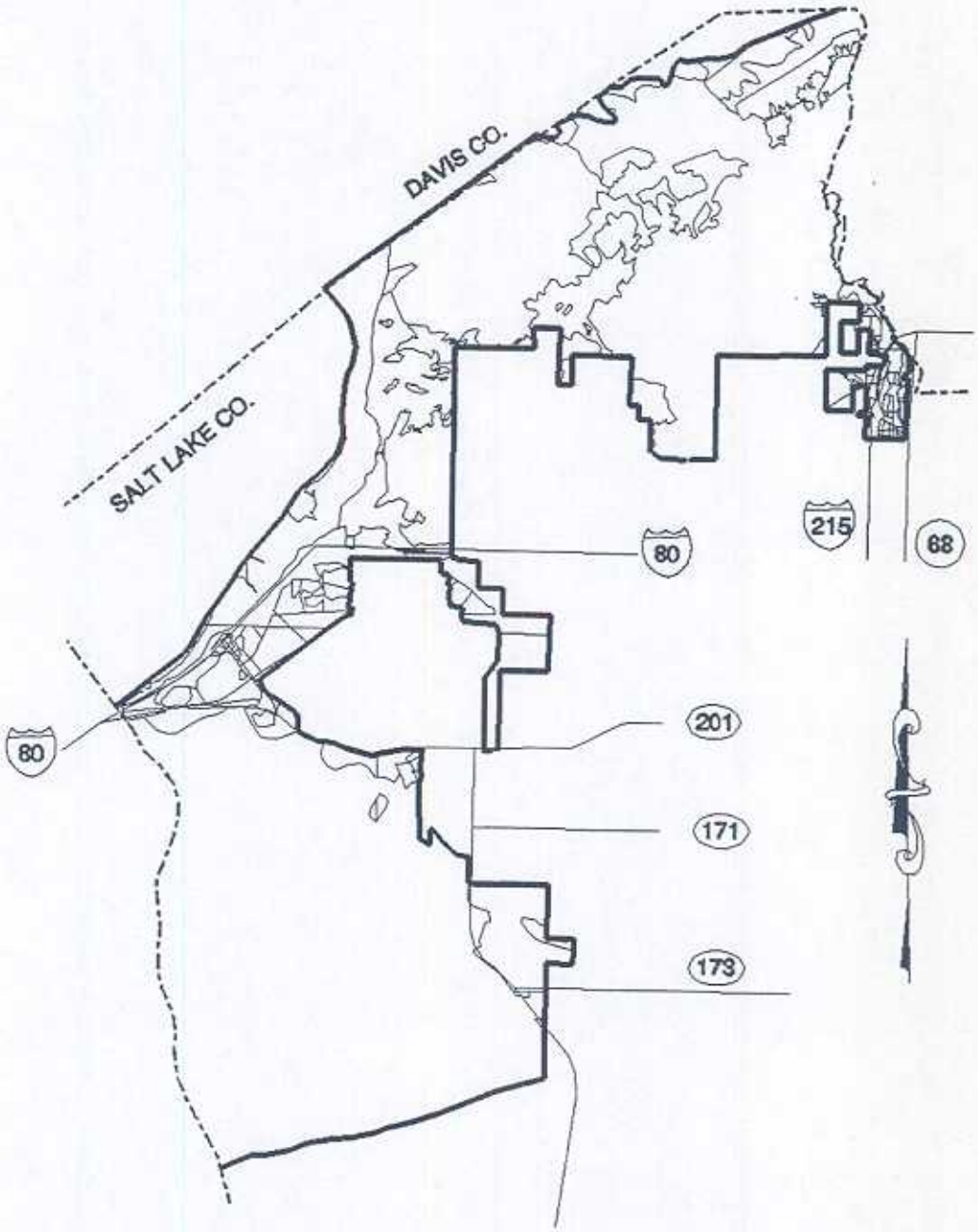


Figure 18. Water-related land use coverage of the Harkers/Coon Canyon (04-02-013) subarea.

Land Cover Area Summary for Figure 19.
Bluffdale (04-02-014) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA1a | Fruit | 15.19 |
| IA2a | Grain | 504.34 |
| IA2a1 | Corn | 101.10 |
| IA3a | Alfalfa | 784.13 |
| IA3b | Grass Hay | 37.34 |
| IA3d | Pasture | 770.91 |
| IA4a | Fallow | 143.06 |
| IA4b | Idle | 355.83 |
| IB1a | Grain/Beans/Seeds | 25.36[1] |
| IB3a | Fallow | 154.88[1] |
| IB3b | Idle | 16.14[1] |
| IIA1a | Pasture | 24.89 |
| IIA2a | Pasture | 8.05 |
| IIA2c | Non-Agricultural Use | 55.40 |
| IIE | Riparian | 255.00 |
| IIF | Open Water | 4.50 |
| IVC | Excavated Lands | 48.01 |
| VA | Farmsteads | 69.19 |
| VB1 | Bldgs/Homes (hi den) | 85.81 |
| VB2 | Bldgs/Homes (lo den) | 952.62 |
| VC1 | Commercial | 15.67 |
| VC2 | Industrial | 231.70 |
| Total Water-Related Land Use | | 4,659.12 |
| Other Land | | 5,798.90 |
| Total Land in Subarea | | 10,458.02 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

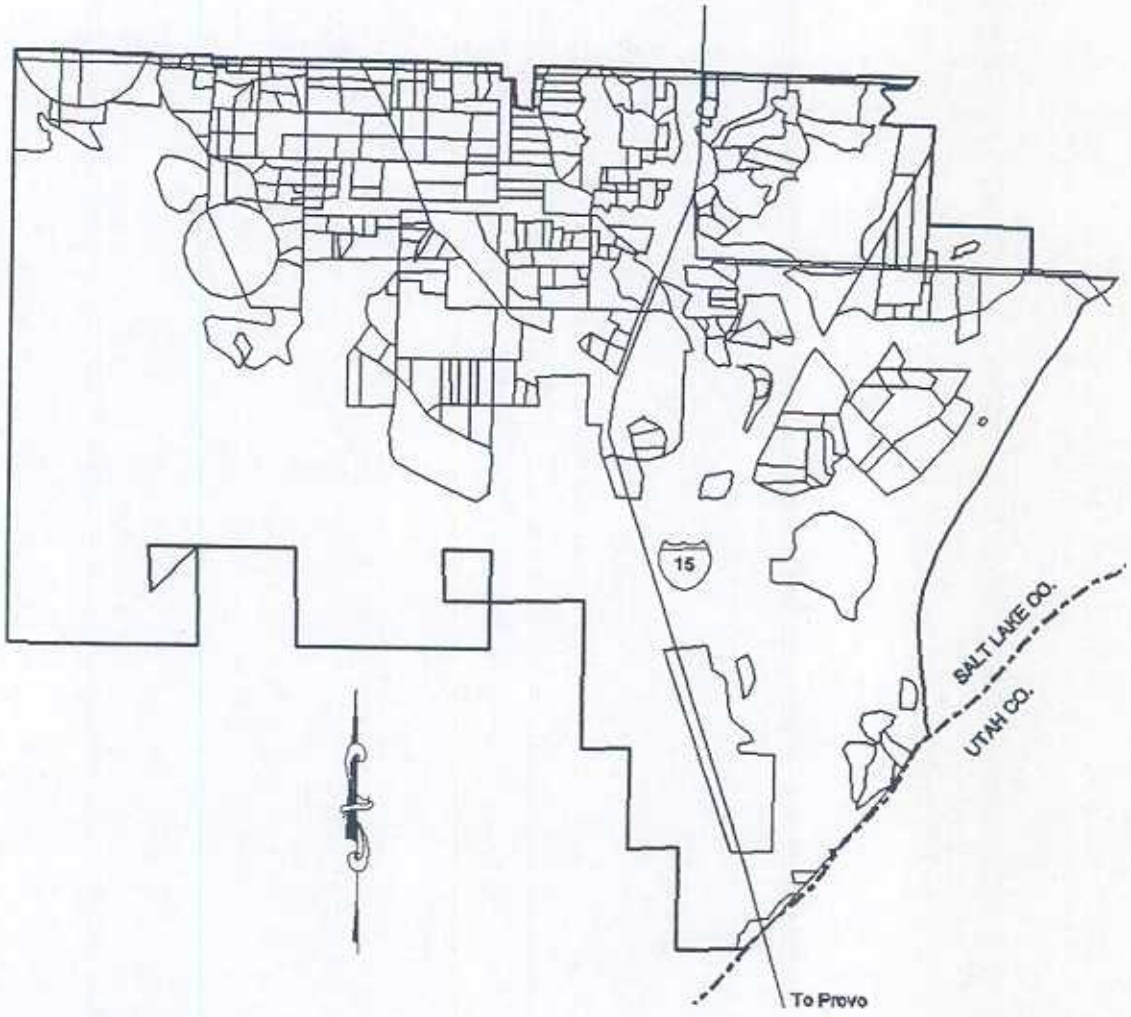


Figure 19. Water-related land use coverageof the Bluffdale (04-02-014) subarea.

Land Cover Area Summary for Figure 20.
Draper (04-02-015) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA1a | Fruit | 65.81 |
| IA2a | Grain | 408.56 |
| IA2a1 | Corn | 548.39 |
| IA2b | Vegetables | 154.83 |
| IA2b1 | Potatoes | 3.38 |
| IA2b2 | Onions | 12.14 |
| IA3a | Alfalfa | 1,081.26 |
| IA3b | Grass Hay | 159.14 |
| IA3d | Pasture | 780.50 |
| IA4a | Fallow | 56.39 |
| IA4b | Idle | 364.95 |
| IB2b | Pasture | 12.06[1] |
| IB3b | Idle | 178.20[1] |
| IIA1a | Pasture | 145.55 |
| IIA2a | Pasture | 0.04 |
| IIE | Riparian | 20.45 |
| IIF4c | Evaporation Pond | 177.50 |
| IVC | Excavated Lands | 262.89 |
| VA | Farmsteads | 148.96 |
| VB1 | Bldgs/Homes (hi den) | 1,966.47 |
| VB2 | Bldgs/Homes (lo den) | 97.23 |
| VB3 | Open Spaces | 44.67 |
| VC1 | Commercial | 17.98 |
| VC2 | Industrial | 270.69 |
| Total Water-Related Land Use | | 6,978.04 |
| Other Land | | 7,258.70 |
| Total Land in Subarea | | 14,236.74 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

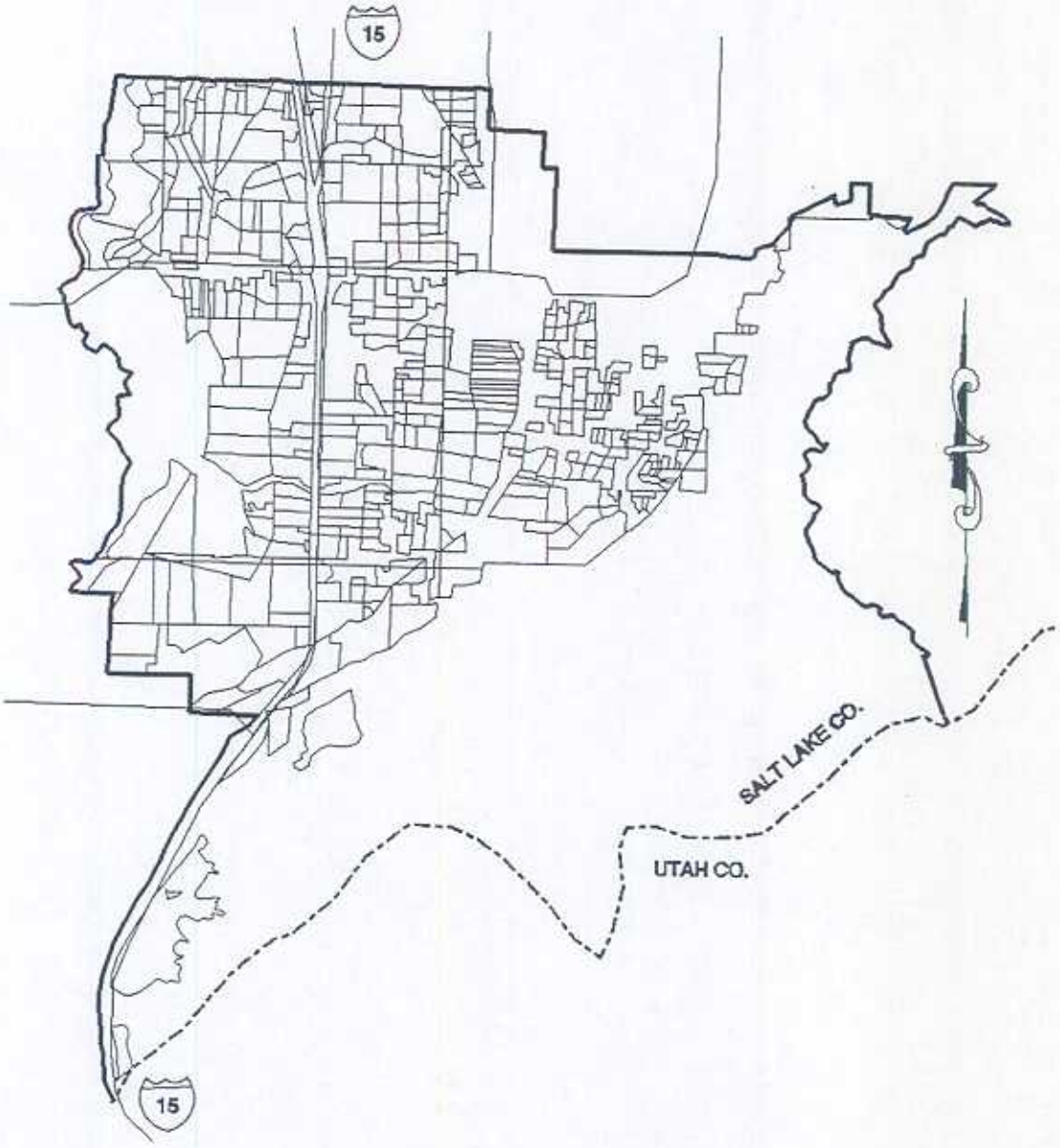


Figure 20. Water-related land use coverage of the Draper (04-02-015) subarea.

Land Cover Area Summary for Figure 21.
Riverton (04-02-016) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA2a | Grain | 646.43 |
| IA2a1 | Corn | 148.42 |
| IA2b | Vegetables | 8.92 |
| IA3a | Alfalfa | 858.82 |
| IA3b | Grass Hay | 29.27 |
| IA3c | Grass/Turf | 1.25 |
| IA3d | Pasture | 497.11 |
| IA4a | Fallow | 129.60 |
| IA4b | Idle | 214.42 |
| IIA1a | Pasture | 17.09 |
| IIA2a | Pasture | 229.80 |
| IIF | Open Water | 2.60 |
| VA | Farmsteads | 41.97 |
| VB1 | Bldgs/Homes (hi den) | 1,963.40 |
| VB2 | Bldgs/Homes (lo den) | 0.82 |
| VB3 | Open Spaces | 6.70 |
| VC1 | Commercial | 32.04 |
| VC2 | Industrial | 3.81 |
| VC3 | Open Space | 25.12 |
| Total Water-Related Land Use | | 4,857.59 |
| Other Land | | 401.58 |
| Total Land in Subarea | | 5,259.17 |

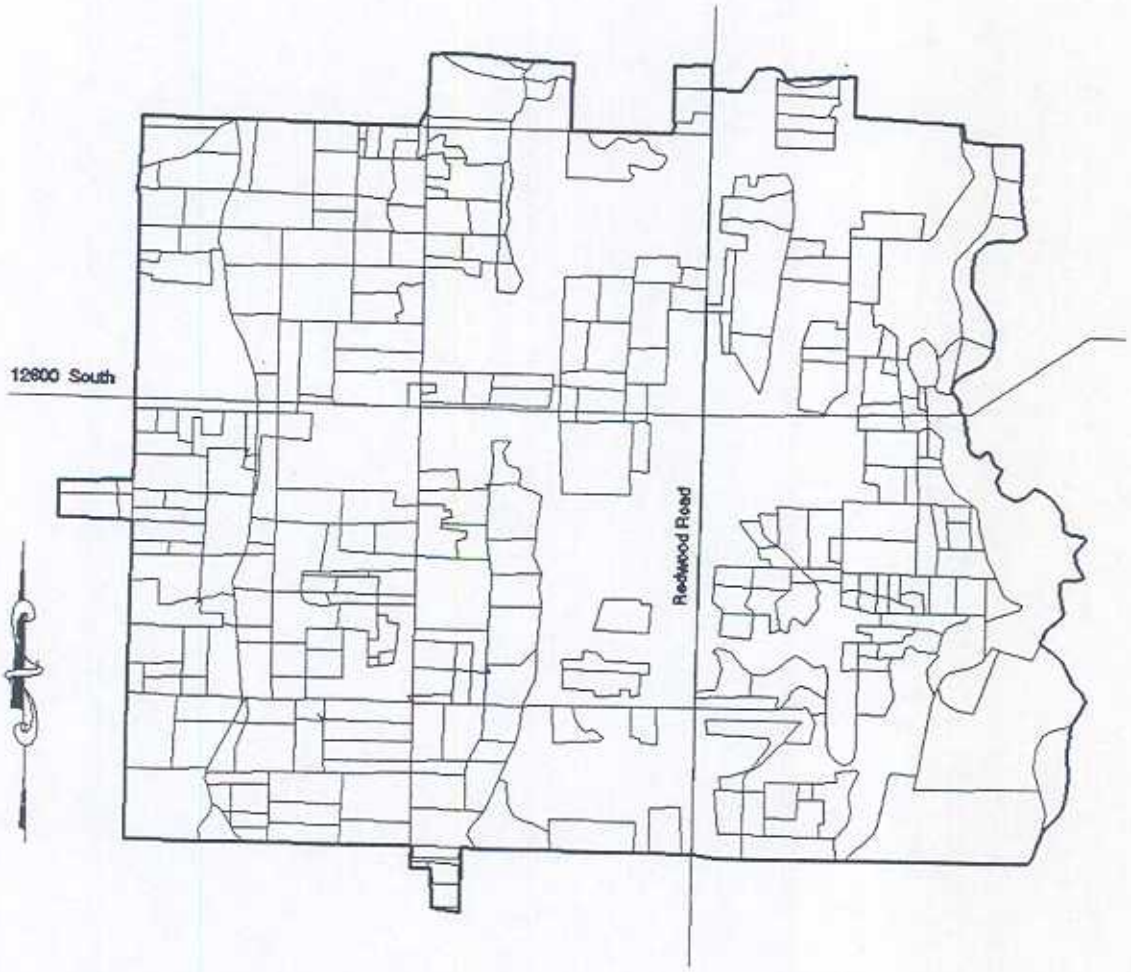


Figure 21. Water-related land use coverage of the Riverton (04-02-016) subarea.

Land Cover Area Summary for Figure 22.
Sandy (04-02-017-01) subsubarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA1a | Fruit | 47.29 |
| IA2a | Grain | 80.06 |
| IA2a1 | Corn | 85.08 |
| IA2b | Vegetables | 27.88 |
| IA3a | Alfalfa | 232.48 |
| IA3b | Grass Hay | 32.27 |
| IA3d | Pasture | 418.98 |
| IA4b | Idle | 96.66 |
| IB1a | Grain/Beans/Seeds | 15.32[1] |
| IB3b | Idle | 370.22[1] |
| IIA1a | Pasture | 42.65 |
| IIA2a | Pasture | 50.53 |
| IIE | Riparian | 12.23 |
| IIF | Open Water | 5.37 |
| VA | Farmsteads | 18.84 |
| VB1 | Bldgs/Homes (hi den) | 10,928.66 |
| VB3 | Open Spaces | 147.82 |
| VC1 | Commercial | 106.17 |
| VC2 | Industrial | 394.92 |
| Total Water-Related Land Use | | 13,113.43 |
| Other Land | | 1,312.10 |
| Total Land in Subarea | | 14,425.53 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

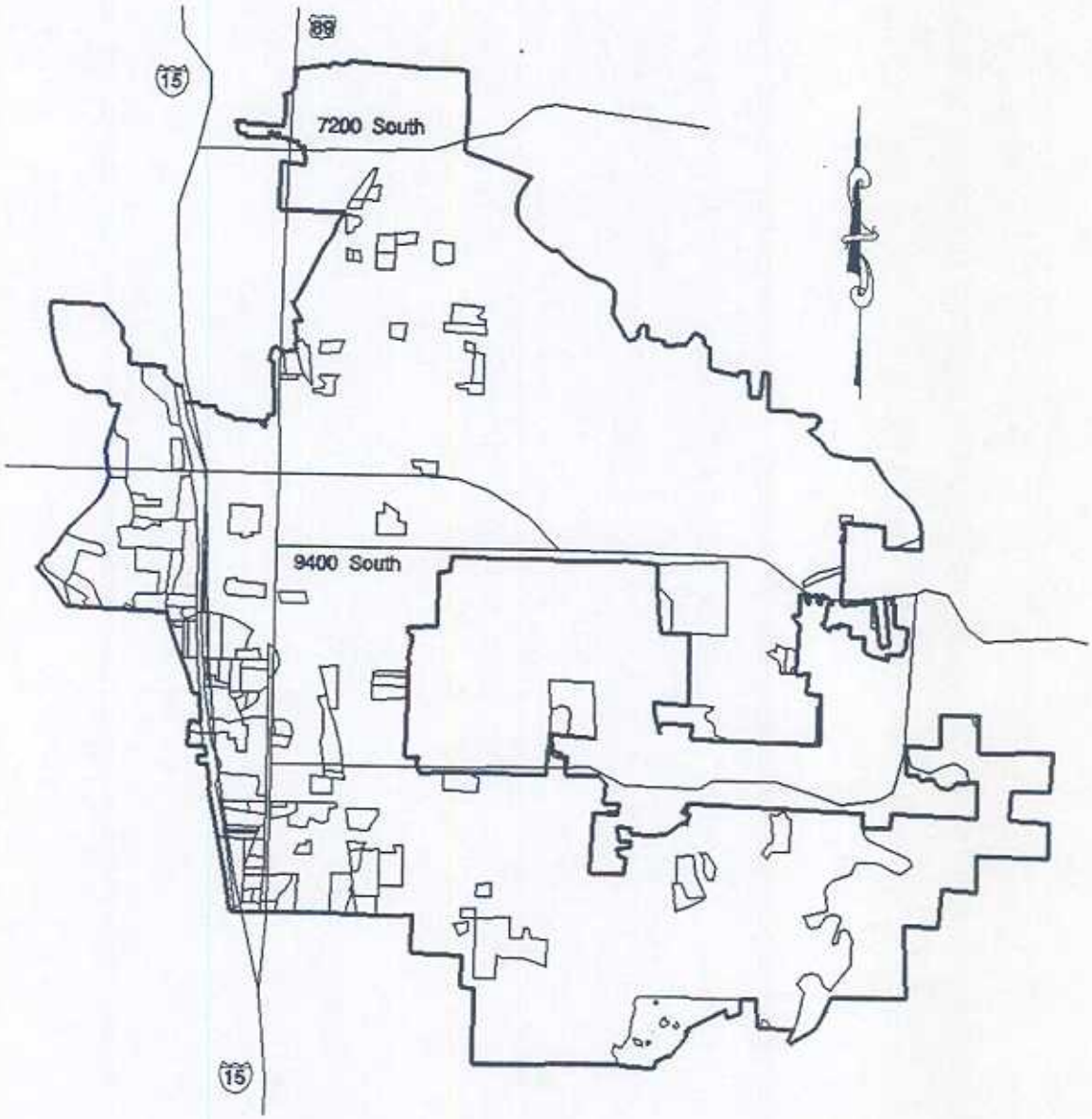


Figure 22. Water-related land use coverage of the Sandy (04-02-017-01) subsubarea.

Land Cover Area Summary for Figure 23.
White City (04-02-017-02) subsubarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA1a | Fruit | 13.73 |
| IA2a | Grain | 0.10 |
| IA2a1 | Corn | 7.00 |
| IA3a | Alfalfa | 12.74 |
| IA3d | Pasture | 5.07 |
| IB3b | Idle | 19.44[1] |
| VB1 | Bldgs/Homes (hi den) | 1,359.36 |
| Total Water-Related Land Use | | 1,417.44 |
| Other Land | | 62.98 |
| Total Land in Subarea | | 1,480.42 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

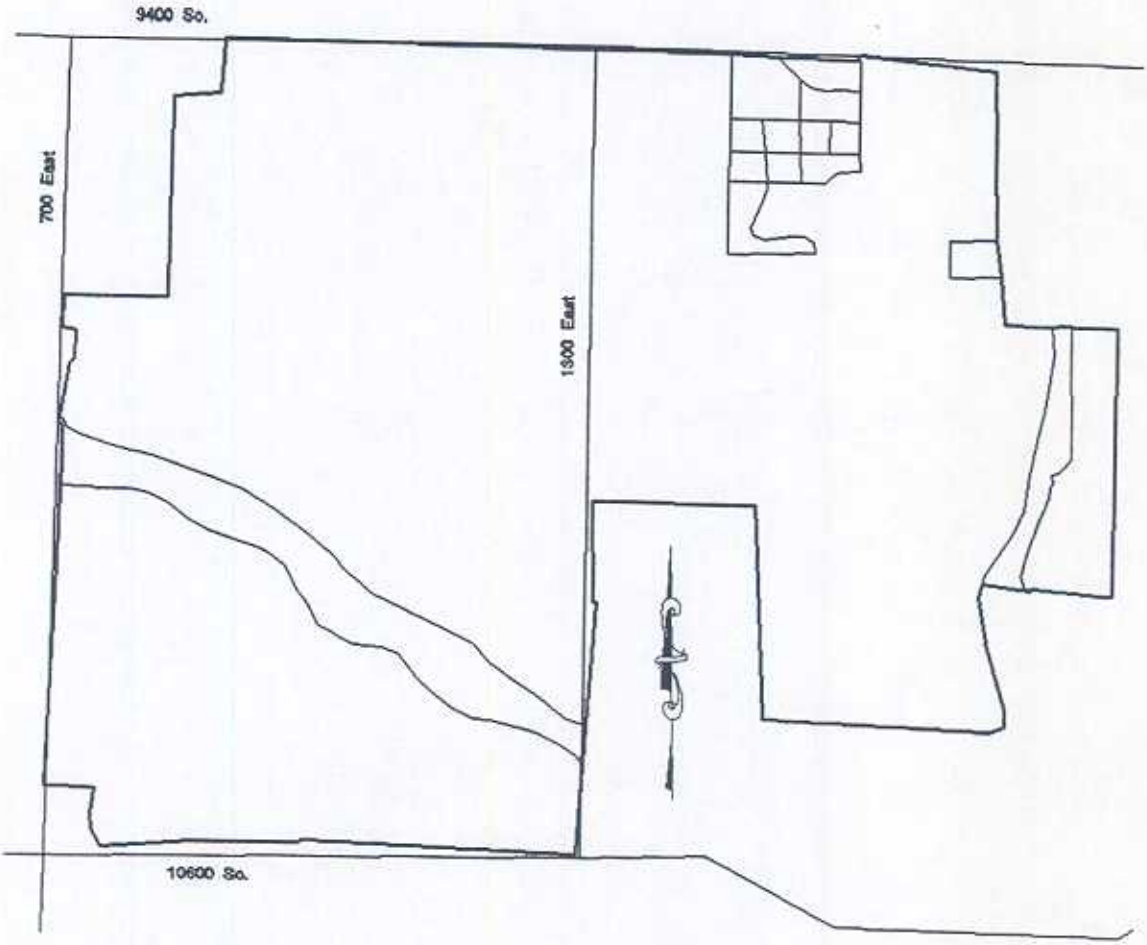


Figure 23. Water-related land use coverage of the White City (04-02-017-02) subsubarea.

Land Cover Area Summary for Figure 24.
South Jordan (04-02-018) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA2a | Grain | 902.48 |
| IA2a1 | Corn | 76.43 |
| IA3a | Alfalfa | 1,723.51 |
| IA3b | Grass Hay | 16.87 |
| IA3c | Grass/Turf | 75.51 |
| IA3d | Pasture | 1,019.90 |
| IA4a | Fallow | 63.52 |
| IA4b | Idle | 183.35 |
| IB1a | Grain/Beans/Seeds | 2,914.33[1] |
| IB2b | Pasture | 0.01[1] |
| IB3a | Fallow | 303.68[1] |
| IB3b | Idle | 128.60[1] |
| IIA1a | Pasture | 271.37 |
| IIA1b | Hayland | 30.79 |
| IIA2a | Pasture | 56.13 |
| IIE | Riparian | 213.87 |
| IIF | Open Water | 81.59 |
| IIF4c | Evaporation Pond | 383.29 |
| IVC | Excavated Lands | 53.11 |
| VA | Farmsteads | 97.48 |
| VB1 | Bldgs/Homes (hi den) | 2,724.38 |
| VB2 | Bldgs/Homes (lo den) | 12.26 |
| VB3 | Open Spaces | 158.78 |
| VC1 | Commercial | 101.57 |
| VC2 | Industrial | 52.43 |
| VC3 | Open Space | 42.60 |
| Total Water-Related Land Use | | 11,687.84 |
| Other Land | | 1,421.20 |
| Total Land in Subarea | | 13,109.04 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

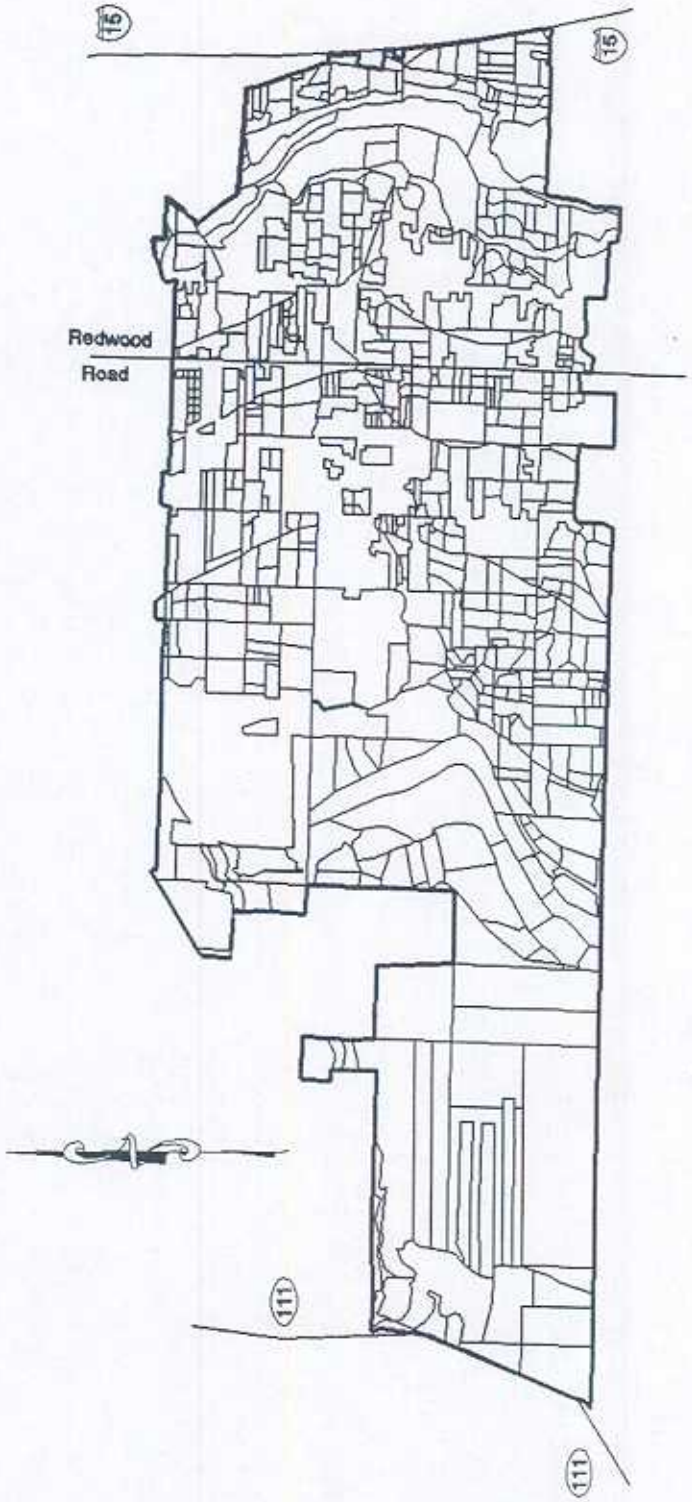


Figure 24. Water-related land use coverage of the South Jordan (04-02-018) subarea.

Land Cover Area Summary for Figure 25.
West Jordan (04-02-019) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA1a | Fruit | 0.01 |
| IA2a | Grain | 701.20 |
| IA2a1 | Corn | 73.56 |
| IA2b | Vegetables | 51.86 |
| IA2b1 | Potatoes | 15.43 |
| IA3a | Alfalfa | 941.03 |
| IA3b | Grass Hay | 36.42 |
| IA3c | Grass/Turf | 25.16 |
| IA3d | Pasture | 595.41 |
| IA4a | Fallow | 152.07 |
| IA4b | Idle | 226.30 |
| IB1a | Grain/Beans/Seeds | 5,592.50[1] |
| IB2a | Alfalfa | 12.00[1] |
| IB2b | Pasture | 52.71[1] |
| IB3a | Fallow | 483.63[1] |
| IB3b | Idle | 201.51[1] |
| IIA1a | Pasture | 168.94 |
| IIE | Riparian | 6.88 |
| IIF4c | Evaporation Pond | 17.67 |
| IVC | Excavated Lands | 107.86 |
| VA | Farmsteads | 27.62 |
| VB1 | Bldgs/Homes (hi den) | 5,277.50 |
| VB2 | Bldgs/Homes (lo den) | 45.57 |
| VB3 | Open Spaces | 147.66 |
| VC1 | Commercial | 867.19 |
| VC2 | Industrial | 425.17 |
| VC3 | Open Space | 130.28 |
| Total Water-Related Land Use | | 16,383.14 |
| Other Land | | 968.62 |
| Total Land in Subarea | | 17,351.76 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

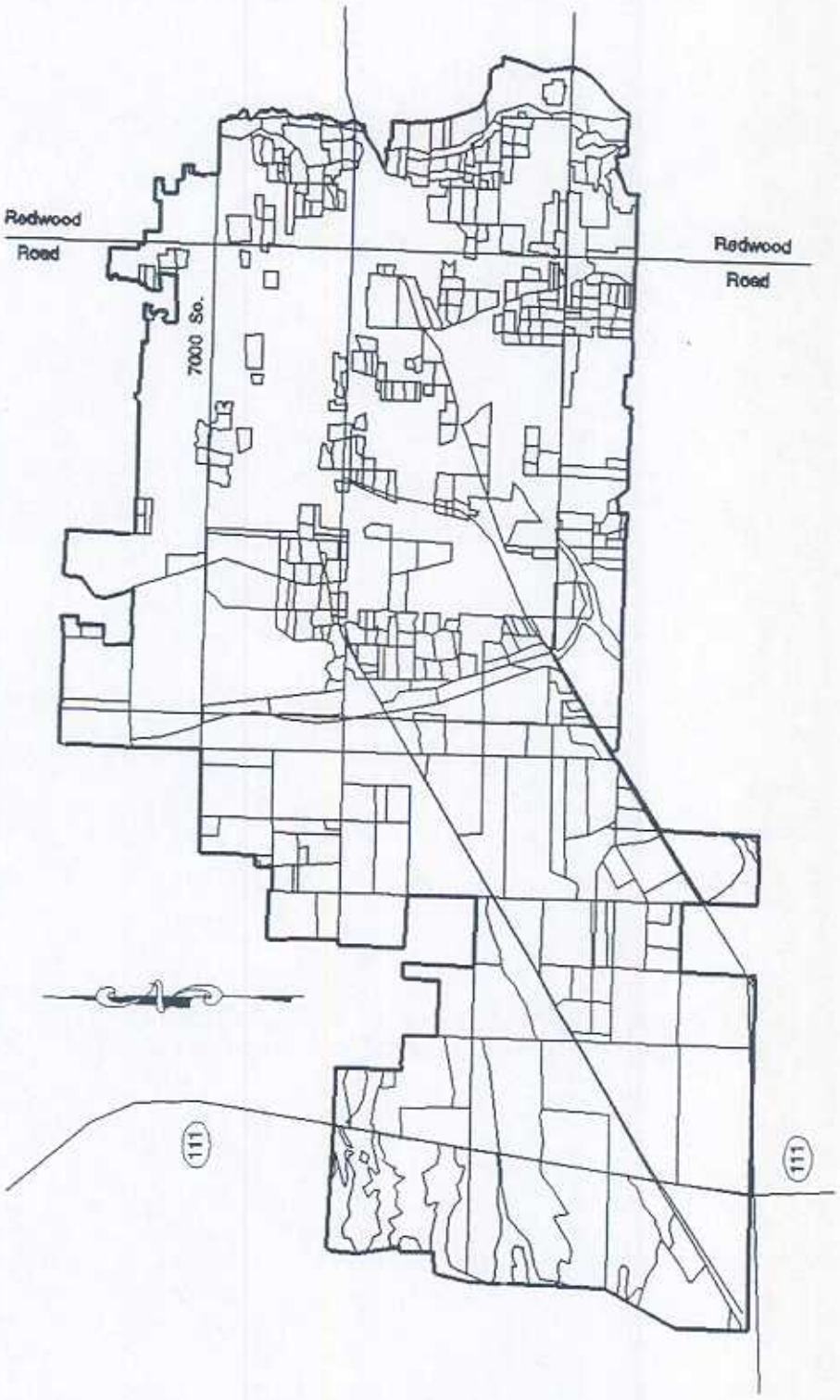


Figure 25. Water-related land use coverage of the West Jordan (04-02-019) subarea.

Land Cover Area Summary for Figure 26.
Midvale (04-02-020) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA2a | Grain | 20.46 |
| IA3d | Pasture | 0.83 |
| VB1 | Bldgs/Homes (hi den) | 1,420.38 |
| VB3 | Open Spaces | 2.75 |
| VC1 | Commercial | 2.74 |
| VC2 | Industrial | 608.68 |
| VC3 | Open Space | 10.60 |
| Total Water-Related Land Use | | 2,066.44 |
| Other Land | | 80.79 |
| Total Land in Subarea | | 2,147.23 |

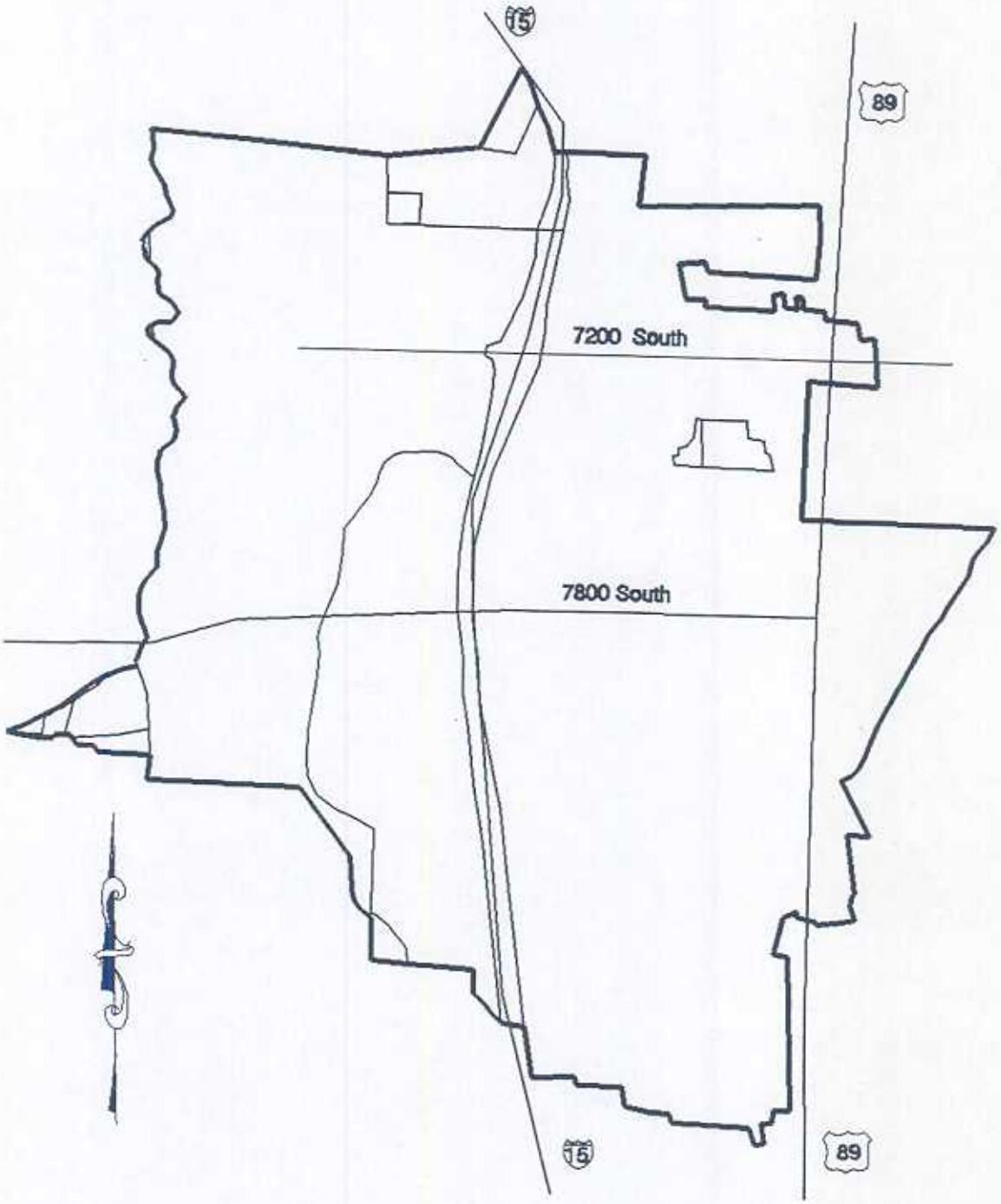


Figure 26. Water-related land use coverage of the Midvale (04-02-020) subarea.

Land Cover Area Summary for Figure 27.
SLC#3 (04-02-021-01) subsubarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA1a | Fruit | 12.84 |
| IA1f | Other Horticulture | 8.78 |
| IA2a | Grain | 6.05 |
| IA2b | Vegetables | 7.73 |
| IA3d | Pasture | 86.77 |
| IB3b | Idle | 31.88[1] |
| IIE | Riparian | 105.04 |
| IIF | Open Water | 9.24 |
| IVC | Excavated Lands | 605.66 |
| VB1 | Bldgs/Homes (hi den) | 13,553.18 |
| VB3 | Open Spaces | 281.93 |
| VC1 | Commercial | 148.92 |
| VC2 | Industrial | 51.25 |
| VC3 | Open Space | 113.07 |
| Total Water-Related Land Use | | 15,022.34 |
| Other Land | | 6,994.88 |
| Total Land in Subarea | | 22,017.22 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

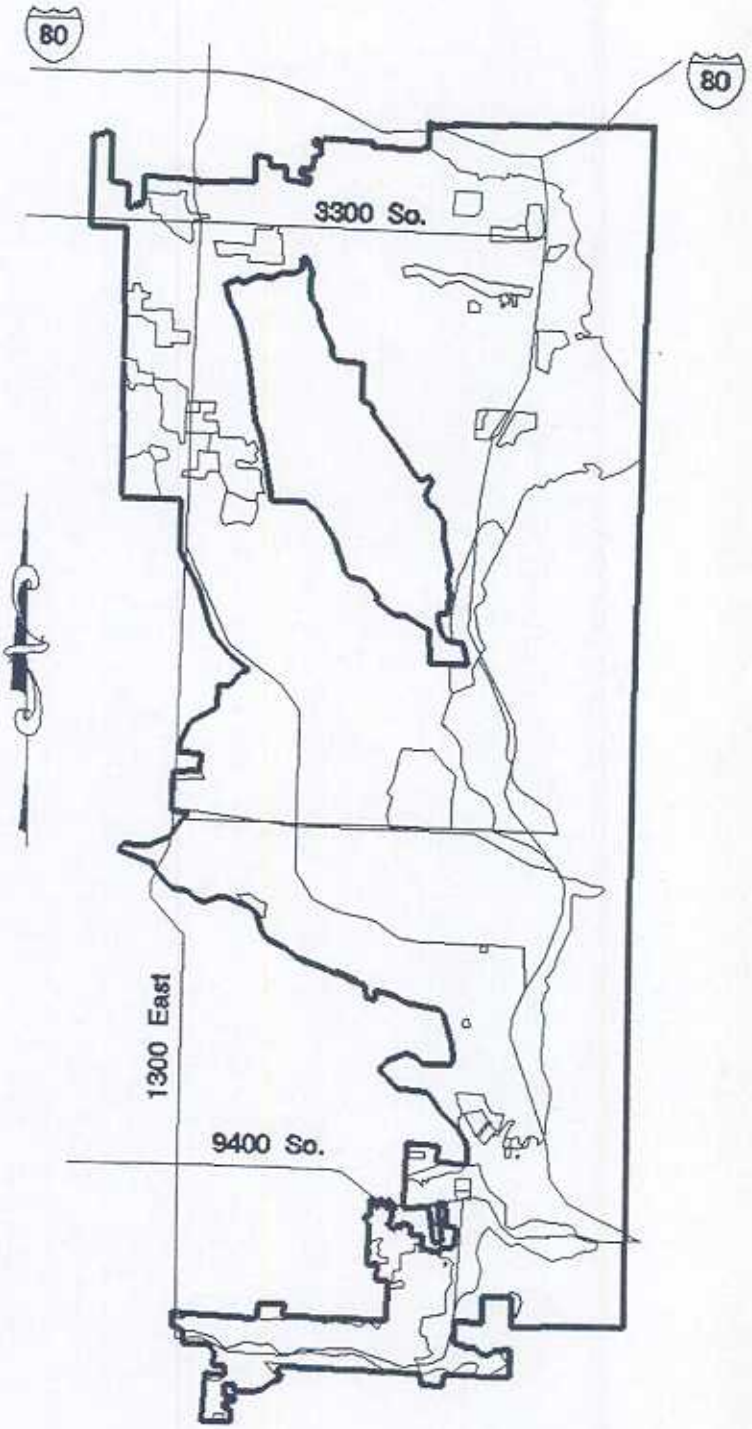


Figure 27. Water-related land use coverage of the SLC # 3 (04-02-021-01) subsubarea.

Land Cover Area Summary for Figure 28.
SLWCD#1 (04-02-021-02) subsubarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA3d | Pasture | 61.20 |
| VB1 | Bldgs/Homes (hi den) | 795.98 |
| Total Water-Related Land Use | | 857.18 |
| Other Land | | 0. 0 |
| Total Land in Subarea | | 857.18 |

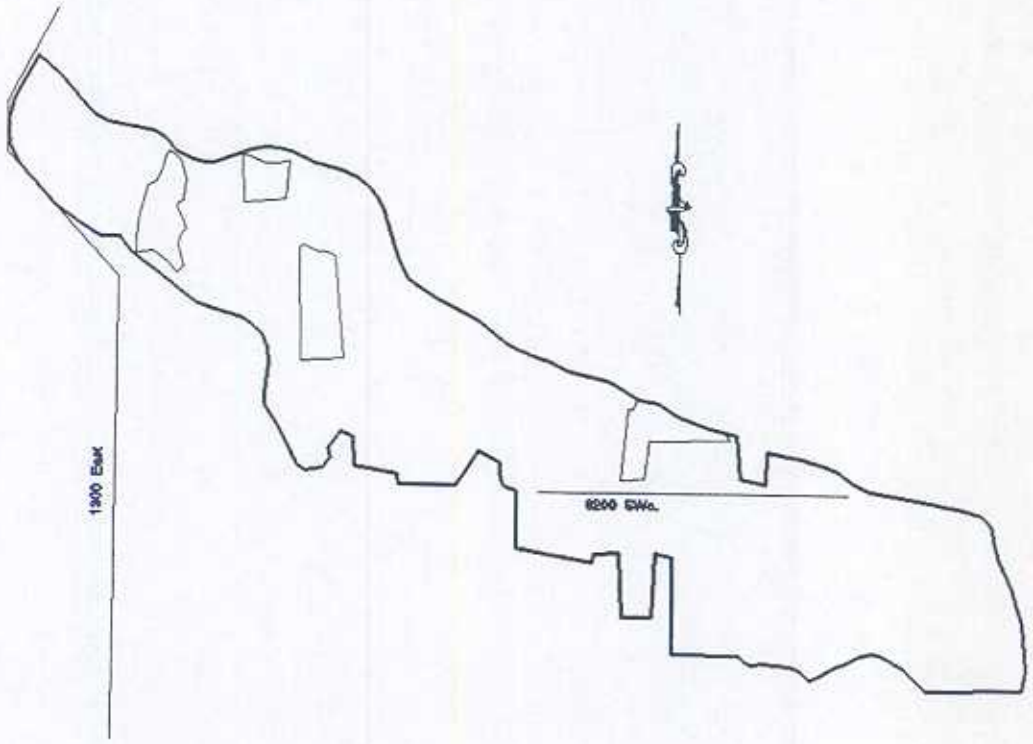


Figure 28. Water-related land use coverage of the SLWCD#1 (04-02-021-02) subsubarea.

Land Cover Area Summary for Figure 29.
SLWCD#2 (04-02-021-03) subsubarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA3a | Alfalfa | 35.43 |
| IA3d | Pasture | 62.74 |
| IIE | Riparian | 64.67 |
| IIF | Open Water | 11.33 |
| VB1 | Bldgs/Homes (hi den) | 1,229.79 |
| VC1 | Commercial | 5.30 |
| VC3 | Open Space | 23.02 |
| Total Water-Related Land Use | | 1,432.28 |
| Other Land | | 41.51 |
| Total Land in Subarea | | 1,473.79 |

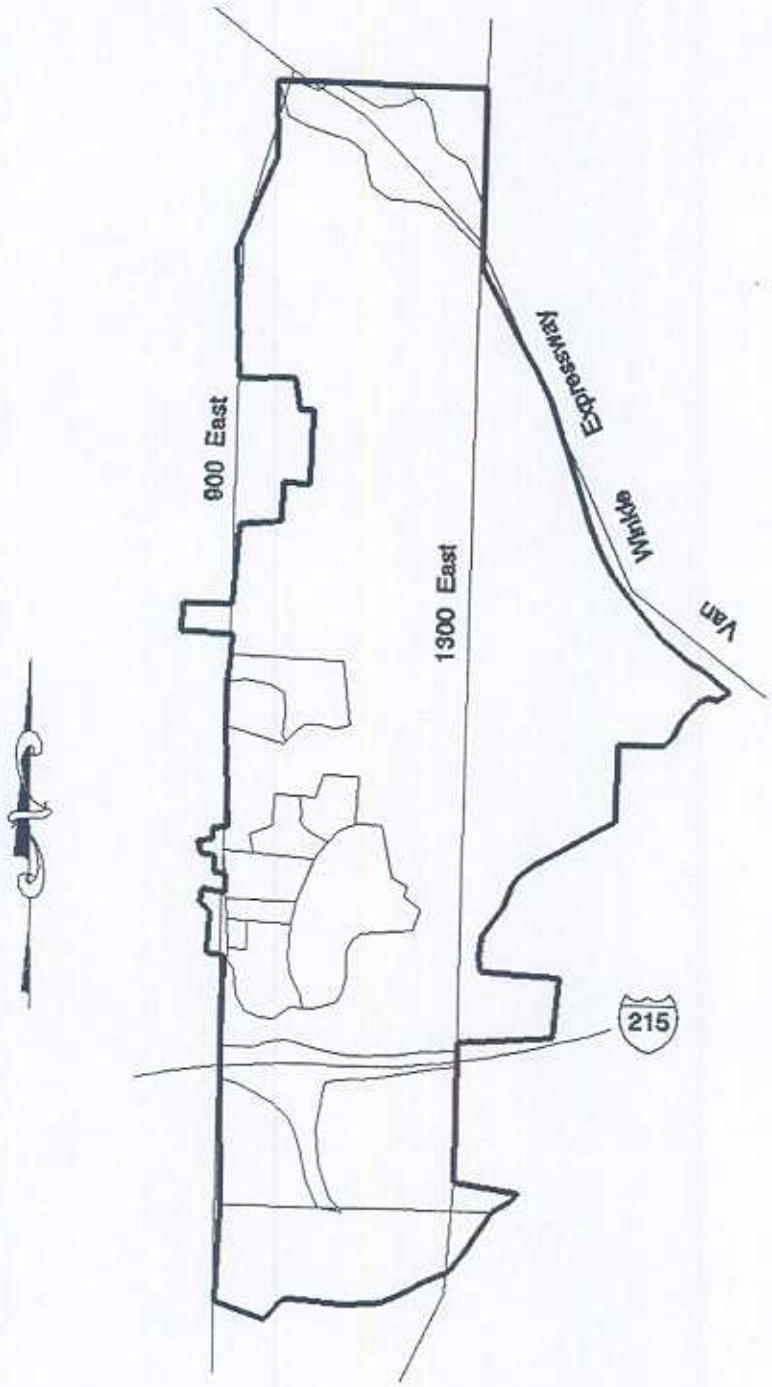


Figure 29. Water-related land use coverage of the SLWCD#2 (04-02-021-03) subsubarea.

Land Cover Area Summary for Figure 30.
SLWCD#3 (04-02-021-04) subsubarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA3d | Pasture | 59.03 |
| IB2b | Pasture | 30.51[1] |
| IIA2a | Pasture | 141.30 |
| IIE | Riparian | 0.26 |
| VB1 | Bldgs/Homes (hi den) | 2,176.36 |
| VC1 | Commercial | 20.47 |
| VC2 | Industrial | 388.95 |
| VC3 | Open Space | 8.30 |
| Total Water-Related Land Use | | 2,825.18 |
| Other Land | | 60.63 |
| Total Land in Subarea | | 2,885.81 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

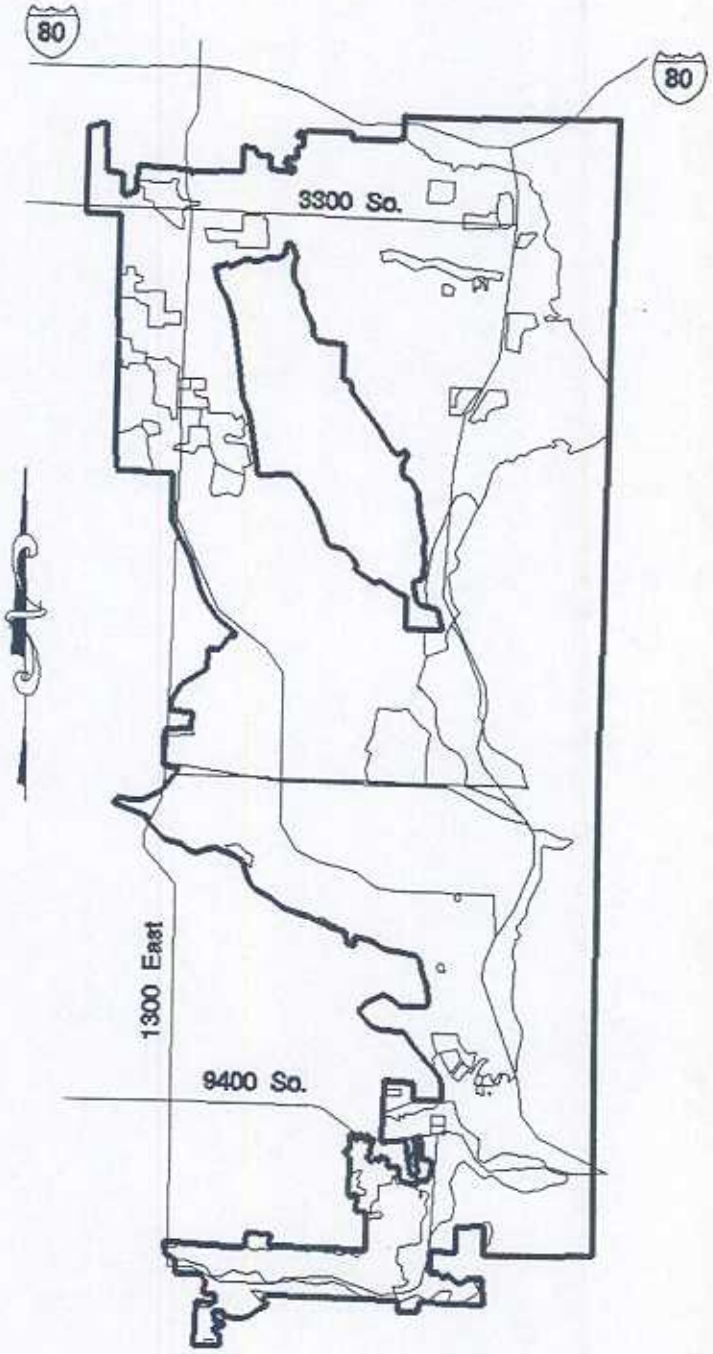


Figure 30. Water-related land use coverage of the SLWCD#3 (04-02-021-04) subsubarea.

Land Cover Area Summary for Figure 31.
Holiday (04-02-021-05) subsubarea.

| Code | Land Cover | Acres |
|---|---|---|
| VB1 | Bldgs/Homes (hi den) | 1,859.26 |
| Total Water-Related Land Use | | 1,859.26 |
| Other Land | | 16.49 |
| Total Land in Subarea | | 1,875.75 |

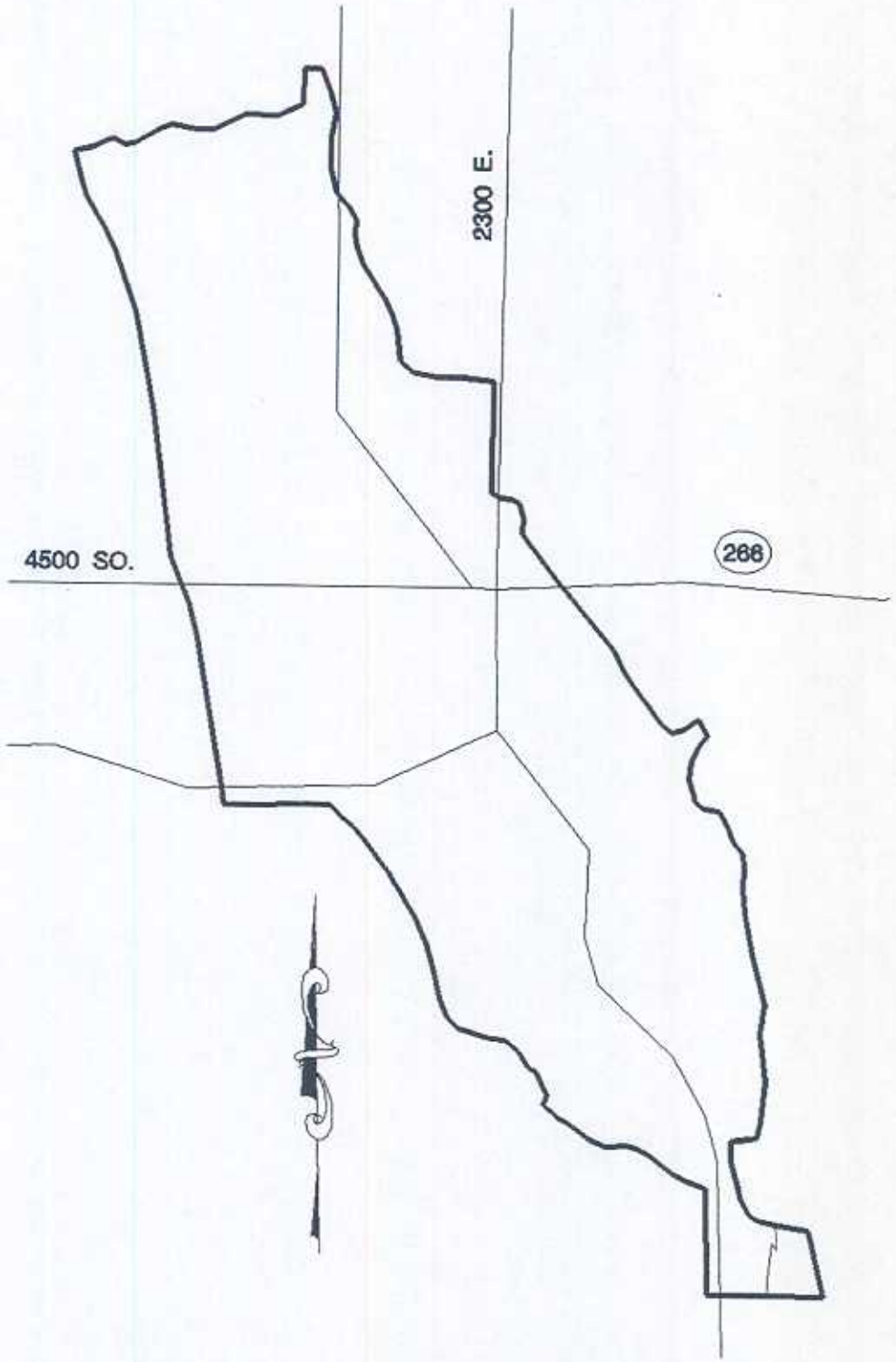


Figure 31. Water-related land use coverage of the Holiday (04-02-021-05) subsubarea.

Land Cover Area Summary for Figure 32.
Murray (04-02-022) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA3b | Grass Hay | 3.16 |
| IA3d | Pasture | 79.59 |
| VB1 | Bldgs/Homes (hi den) | 5,532.69 |
| VC1 | Commercial | 27.68 |
| VC2 | Industrial | 254.83 |
| VC3 | Open Space | 43.45 |
| Total Water-Related Land Use | | 5,941.40 |
| Other Land | | 340.16 |
| Total Land in Subarea | | 6,281.56 |

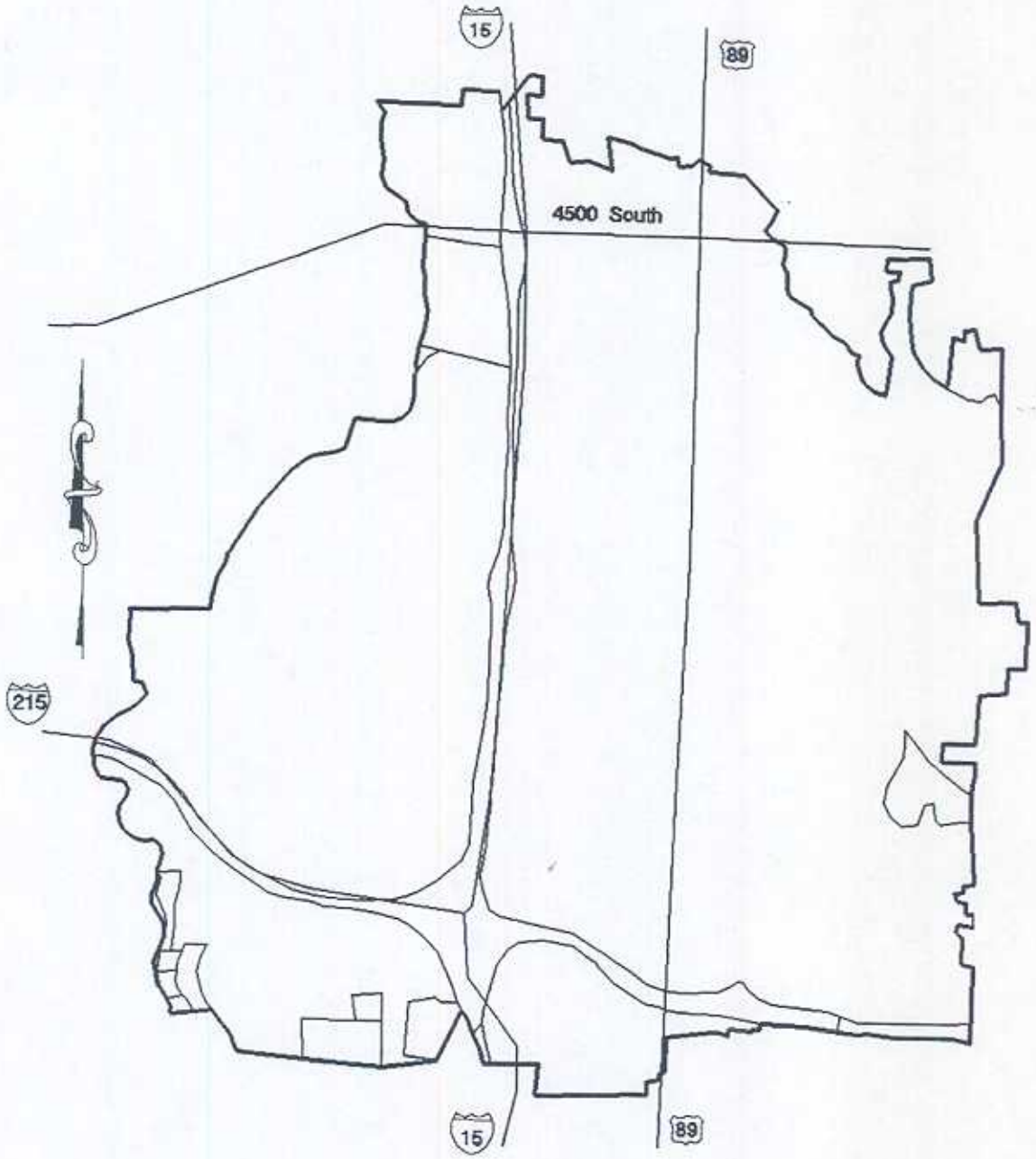


Figure 32. Water-related land use coverage of the Murray (04-02-022) subarea.

Land Cover Area Summary for Figure 33.
Taylorsville/Bennion (04-02-023) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA2a | Grain | 51.18 |
| IA2a1 | Corn | 75.14 |
| IA3a | Alfalfa | 264.48 |
| IA3b | Grass Hay | 0.34 |
| IA3d | Pasture | 53.90 |
| IA4a | Fallow | 5.35 |
| IA4b | Idle | 56.46 |
| IB3b | Idle | 55.91[1] |
| IIA2a | Pasture | 34.27 |
| VB1 | Bldgs/Homes (hi den) | 5,544.35 |
| VB3 | Open Spaces | 225.61 |
| VC1 | Commercial | 50.58 |
| VC2 | Industrial | 560.60 |
| VC3 | Open Space | 78.83 |
| Total Water-Related Land Use | | 7,057.00 |
| Other Land | | 348.81 |
| Total Land in Subarea | | 7,405.81 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

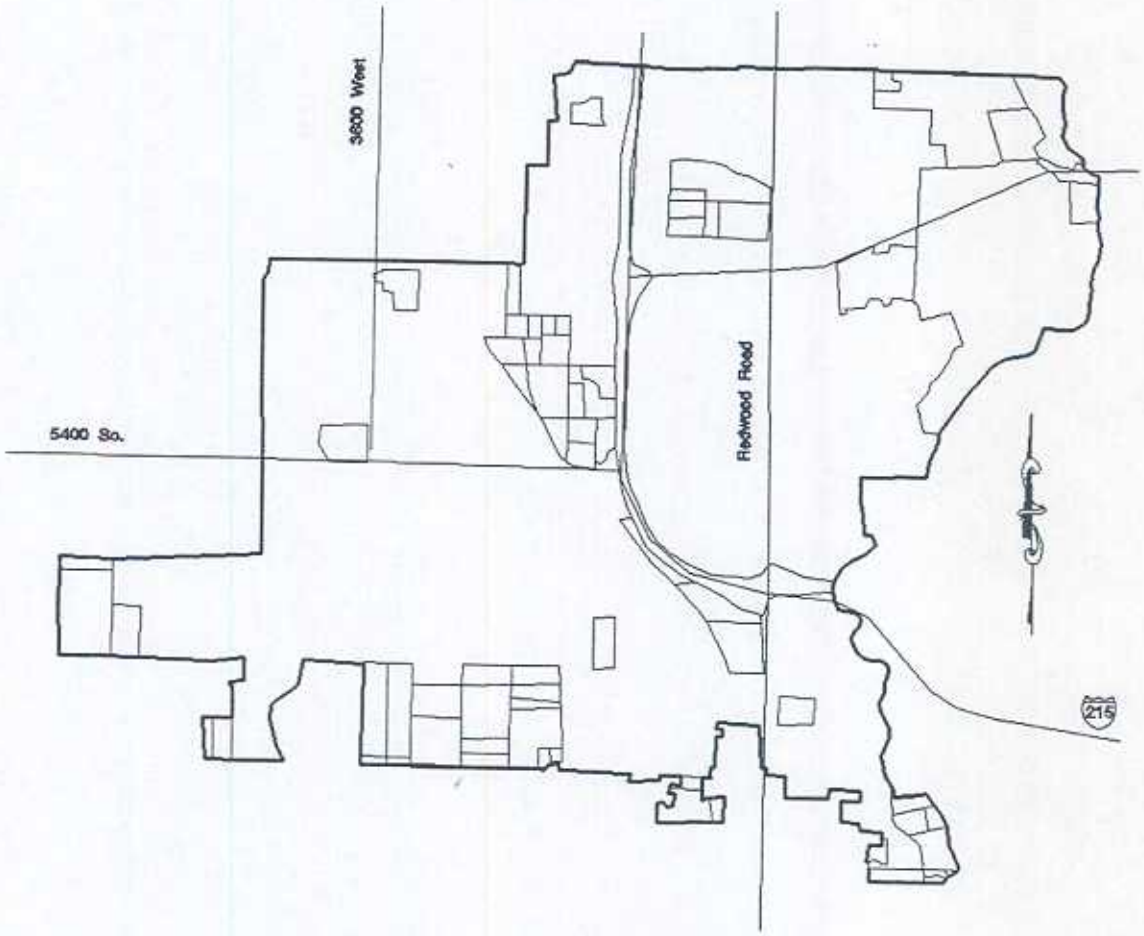


Figure 33. Water-related land use coverage of the Taylorsville/Bennion (04-02-023) subarea.

Land Cover Area Summary for Figure 34.
Kearns (04-02-024) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA3a | Alfalfa | 5.18 |
| IA4b | Idle | 0.12 |
| IB1a | Grain/Beans/Seeds | 358.21 |
| IB3a | Fallow | 739.45[1] |
| IB3b | Idle | 370.14[1] |
| IVC | Excavated Lands | 125.39 |
| VB1 | Bldgs/Homes (hi den) | 2,697.23 |
| VB3 | Open Spaces | 25.59 |
| VC2 | Industrial | 545.14 |
| Total Water-Related Land Use | | 4,866.45 |
| Other Land | | 1,704.42 |
| Total Land in Subarea | | 6,570.87 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

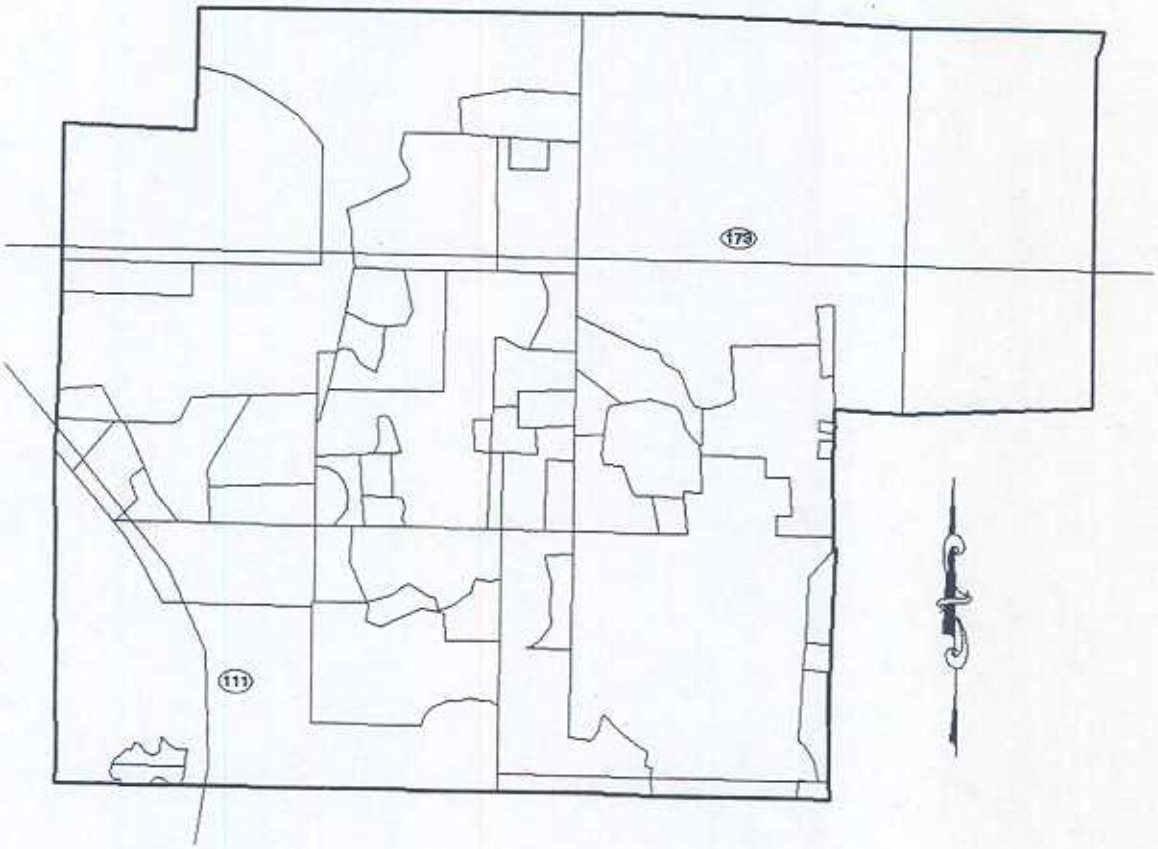


Figure 34. Water-related land use coverage of the Kearns (04-02-024) subarea.

Land Cover Area Summary for Figure 35.
Granger/Hunter (04-02-025) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA2a | Grain | 110.45 |
| IA2a1 | Corn | 35.65 |
| IA2b4 | Tomatoes | 4.92 |
| IA3a | Alfalfa | 830.58 |
| IA3b | Grass Hay | 39.74 |
| IA3d | Pasture | 791.37 |
| IA4a | Fallow | 26.21 |
| IA4b | Idle | 161.36 |
| IB3b | Idle | 539.06[1] |
| IIA2a | Pasture | 143.57 |
| IIA2c | Non-Agricultural Use | 99.20 |
| IIF | Open Water | 81.30 |
| VA | Farmsteads | 21.89 |
| VB1 | Bldgs/Homes (hi den) | 7,838.11 |
| VB3 | Open Spaces | 131.02 |
| VC1 | Commercial | 157.71 |
| VC2 | Industrial | 2,350.63 |
| VC3 | Open Space | 46.03 |
| Total Water-Related Land Use | | 13,408.80 |
| Other Land | | 3,227.71 |
| Total Land in Subarea | | 16,636.51 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

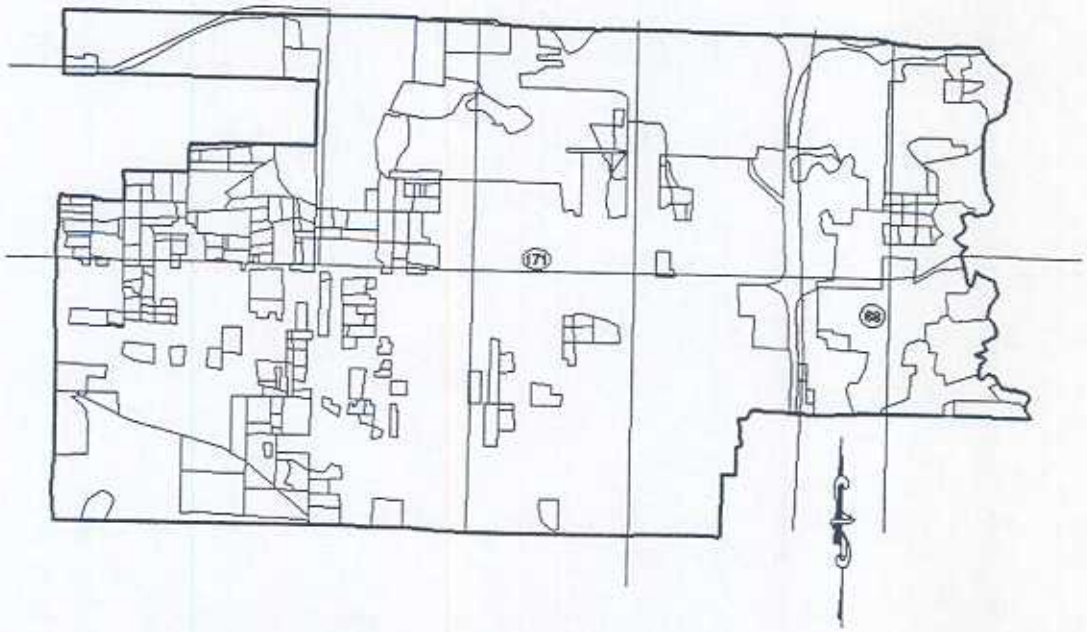

Figure 35. Water-related land use coverage of the Granger/Hunter (04-02-025) subarea.

Land Cover Area Summary for Figure 36.
Magna (04-02-026) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA1f | Other Horticulture | 12.27 |
| IA2a1 | Corn | 32.21 |
| IA3a | Alfalfa | 261.92 |
| IA3c | Grass/Turf | 17.11 |
| IA3d | Pasture | 633.53 |
| IA4b | Idle | 35.32 |
| IB1a | Grain/Beans/Seeds | 76.85[1] |
| IB3a | Fallow | 172.44[1] |
| IB3b | Idle | 325.90[1] |
| IIA2a | Pasture | 36.69 |
| IIA2c | Non-Agricultural Use | 39.24 |
| IIE | Riparian | 31.33 |
| IIF4b | Sewage Lagoon | 18.49 |
| VA | Farmsteads | 180.80 |
| VB1 | Bldgs/Homes (hi den) | 1,837.77 |
| VB3 | Open Spaces | 105.68 |
| VC1 | Commercial | 89.32 |
| VC2 | Industrial | 26.54 |
| VC3 | Open Space | 18.88 |
| Total Water-Related Land Use | | 3,952.29 |
| Other Land | | 1,224.66 |
| Total Land in Subarea | | 5,176.95 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

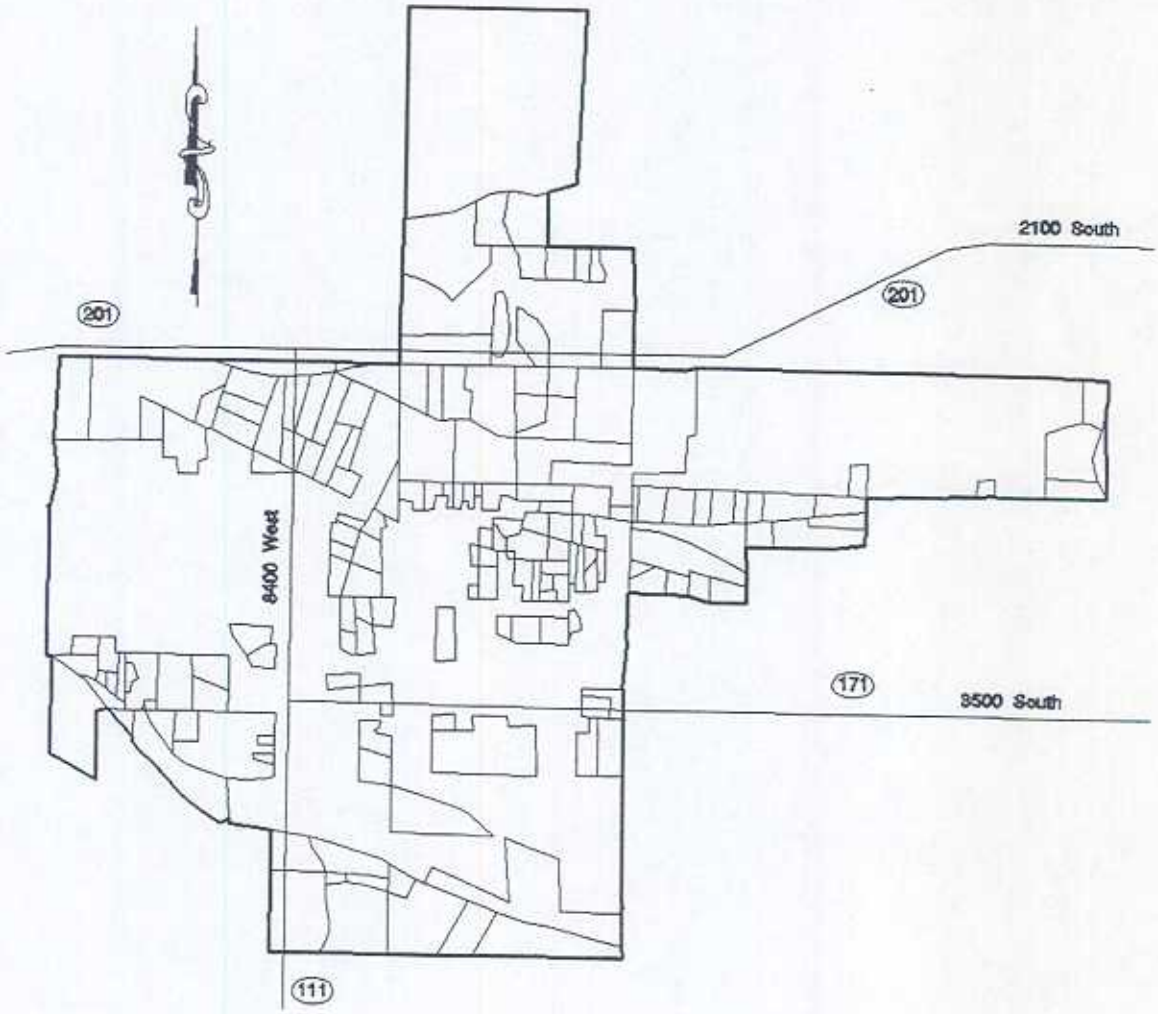


Figure 36. Water-related land use coverage of the Magna (04-02-026) subarea.

Land Cover Area Summary for Figure 37.
So. Salt Lake (04-02-027) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| VB1 | Bldgs/Homes (hi den) | 1,595.11 |
| VC2 | Industrial | 1,083.55 |
| Total Water-Related Land Use | | 2,678.66 |
| Other Land | | 254.31 |
| Total Land in Subarea | | 2,932.97 |

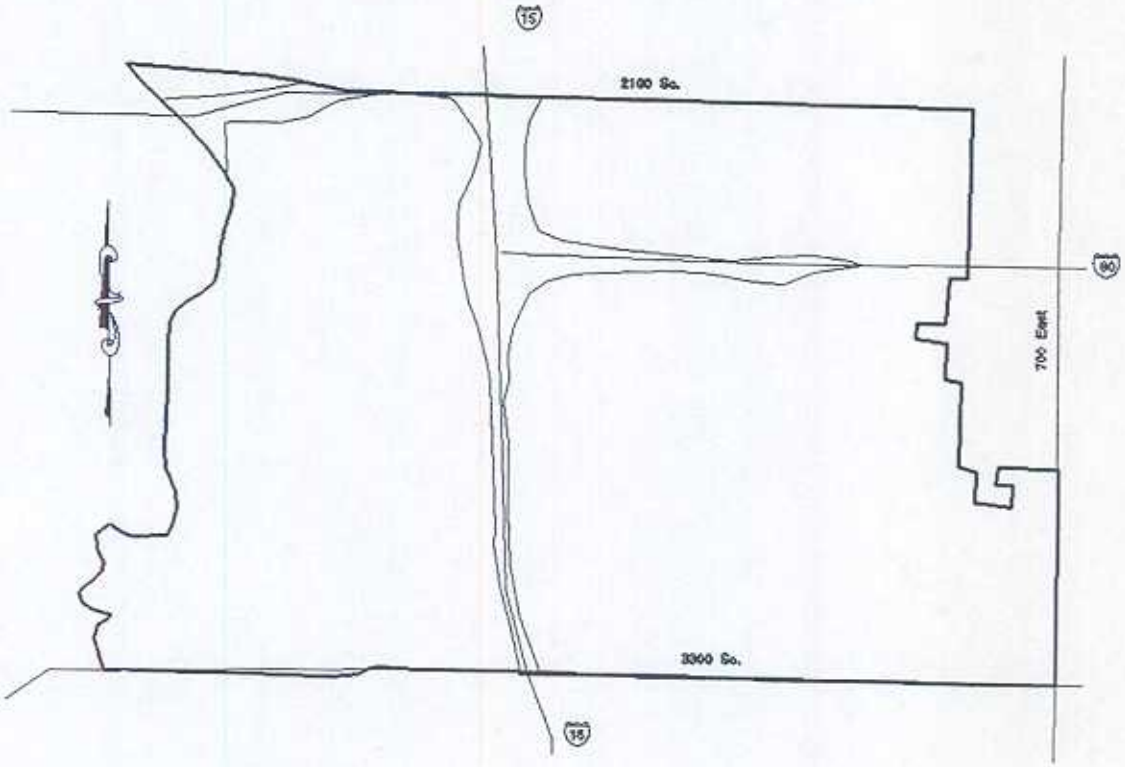


Figure 37. Water-related land use coverage of the So. Salt Lake (02-02-027) subarea.

Land Cover Area Summary for Figure 38.
SLC#2 (04-02-028) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA2b | Vegetables | 67.57 |
| IA3a | Alfalfa | 0.72 |
| IA3b | Grass Hay | 0.31 |
| IA3d | Pasture | 140.72 |
| IA4b | Idle | 1.05 |
| IB2a | Alfalfa | 0.93[1] |
| IIA1a | Pasture | 105.00 |
| IIA2a | Pasture | 21.97 |
| IIB-E | Wet/Vegetation Asp. | 6.49 |
| IIF | Open Water | 14.06 |
| IVC | Excavated Lands | 259.86 |
| VA | Farmsteads | 2.62 |
| VB1 | Bldgs/Homes (hi den) | 15,534.12 |
| VB2 | Bldgs/Homes (lo den) | 11.57 |
| VB3 | Open Spaces | 1,554.81 |
| VC | Commercial/Industr. | 7.87 |
| VC1 | Commercial | 1,001.27 |
| VC2 | Industrial | 2,189.92 |
| VC3 | Open Space | 485.76 |
| Total Water-Related Land Use | | 21,406.62 |
| Other Land | | 15,608.93 |
| Total Land in Subarea | | 37,015.55 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

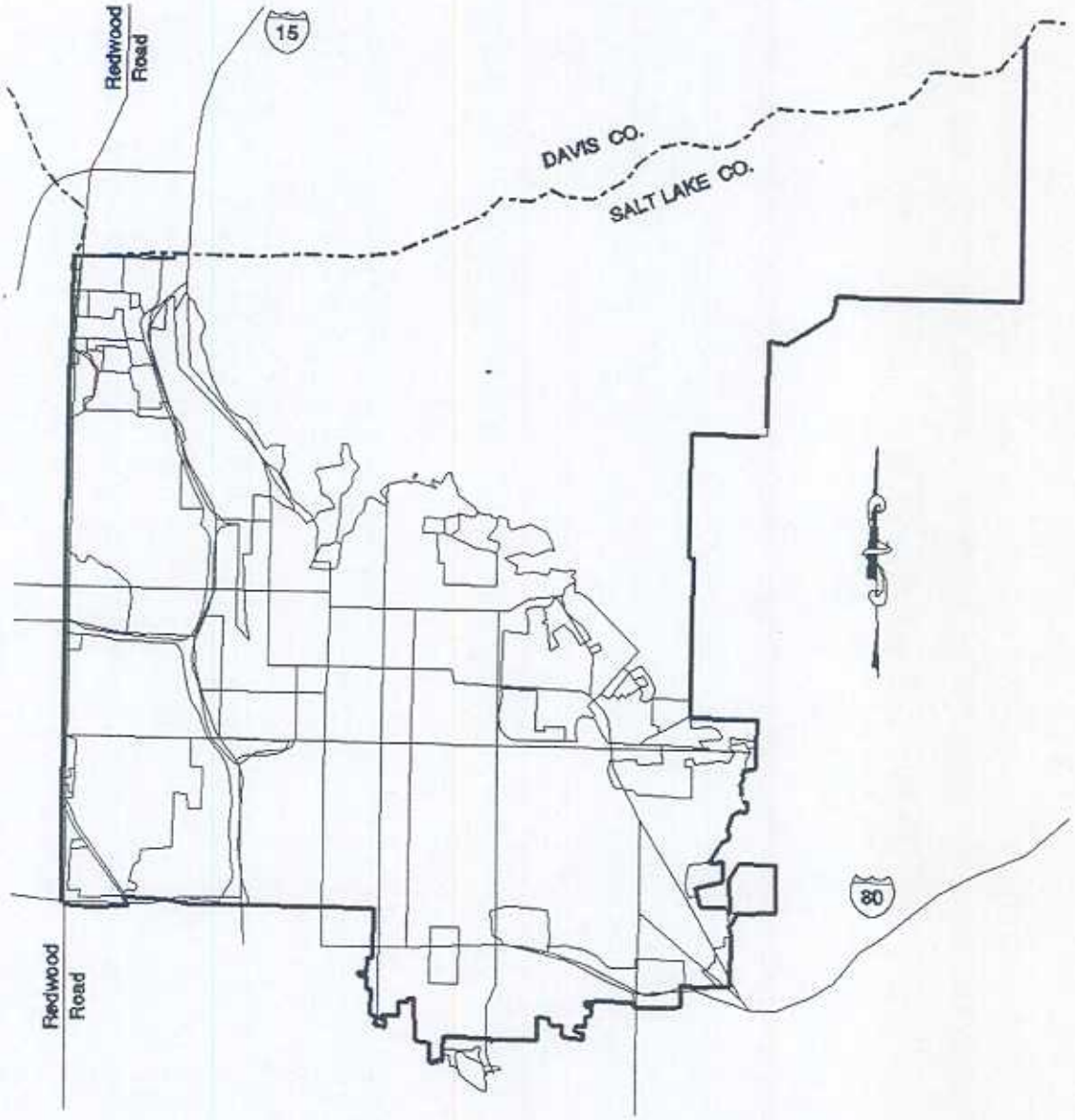


Figure 38. Water-related land use coverage of the SLC#2 (04-02-028) subarea.

Land Cover Area Summary for Figure 39.
SLC#1 (04-02-029) subarea.

| Code | Land Cover | Acres |
|---|---|---|
| IA1a | Fruit | 5.93 |
| IA2a | Grain | 169.65 |
| IA2a1 | Corn | 96.87 |
| IA3a | Alfalfa | 114.26 |
| IA3b | Grass Hay | 216.57 |
| IA3c | Grass/Turf | 793.60 |
| IA3d | Pasture | 1,825.62 |
| IA4b | Idle | 107.52 |
| IB2a | Alfalfa | 83.60[1] |
| IB2b | Pasture | 67.19[1] |
| IB3a | Fallow | 1.50[1] |
| IB3b | Idle | 1,601.74[1] |
| IIA1a | Pasture | 123.44 |
| IIA1b | Hayland | 85.24 |
| IIA2a | Pasture | 54.84 |
| IIA2b | Hayland | 58.75 |
| IIA2c | Non-Agricultural Use | 849.48 |
| IIB | Cattail/Bullrush Asp | 209.90 |
| IIB-E | Wet/Vegetation Asp. | 1,451.62 |
| IIC | Wet Flats | 179.53[2] |
| IIE | Riparian | 4.99 |
| IIF | Open Water | 100.12 |
| IIF2 | Reservoirs | 59.87 |
| IIF4a | Temporary Flooded | 0.44 |
| IIF4c | Evaporation Pond | 260.22 |
| VA | Farmsteads | 12.54 |
| VB1 | Bldgs/Homes (hi den) | 451.21 |
| VB2 | Bldgs/Homes (lo den) | 71.78 |
| VB3 | Open Spaces | 141.08 |
| VC1 | Commercial | 2,572.83 |
| VC2 | Industrial | 3,589.80 |
| VC3 | Open Space | 831.16 |
| Total Water-Related Land Use | | 16,192.89 |
| Other Land | | 16,518.01 |
| Total Land in Subarea | | 32,710.90 |

[1]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Non-irrigated agriculture lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are normally not mapped. Acres shown in the table reflect only the number of acres mapped, not the total number of acres in the subarea.

[2]In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Wet Flats are generally mapped if they fall within or border irrigated lands. Wet Flats alone are normally not mapped. Acres shown in the table reflect only the numbers of acres mapped, not the total numbers of acres in the subarea.

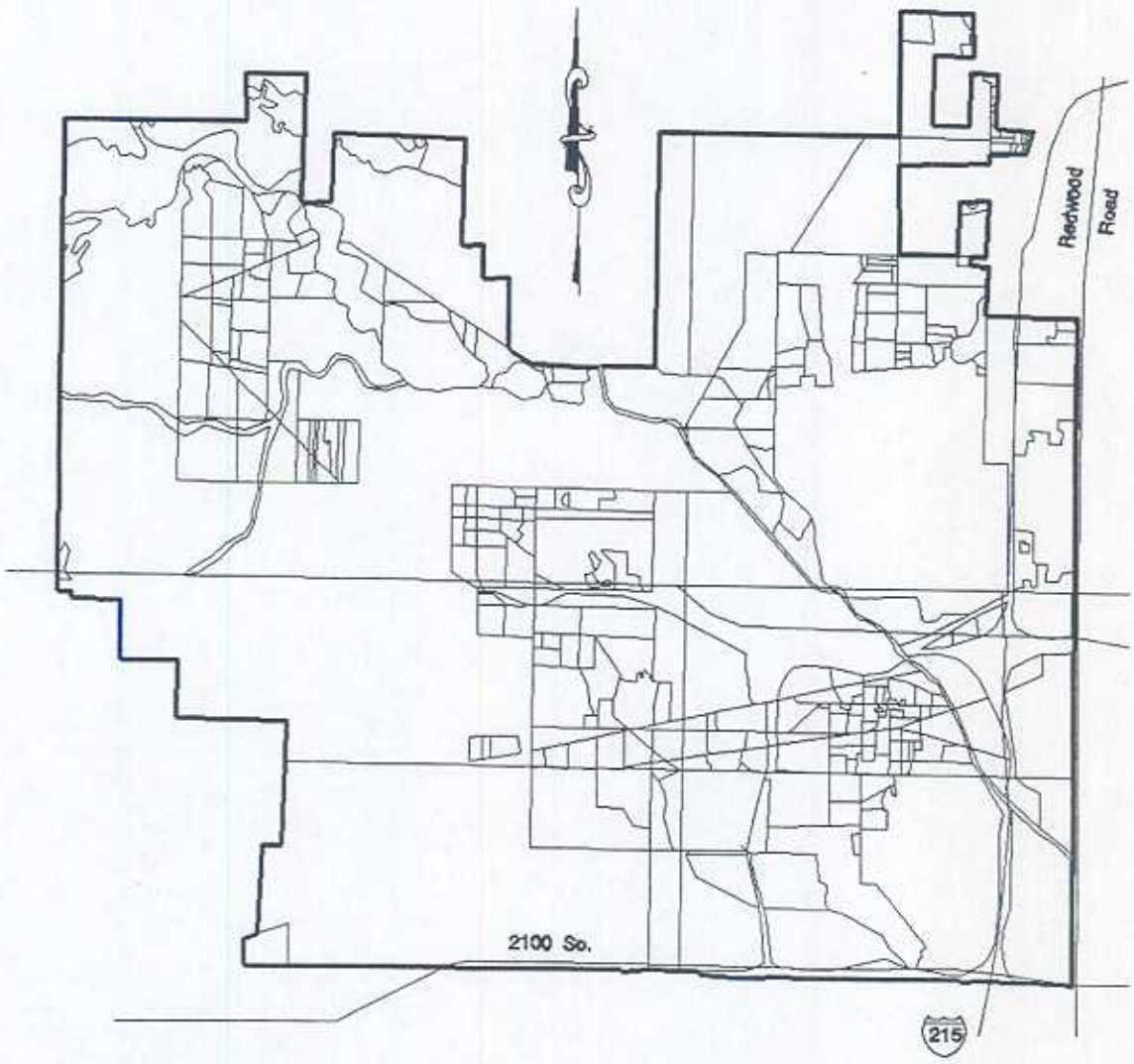


Figure 39. Water-related land use coverage of the SLC#1 (04-02-029) subarea.

The water-related land use data for the Lower Jordan River Study Area were collected in 1988 by the Division of Water Resources. The report displays the data by subarea (see Figures 5 through 39) and tabulates it in Table 2. The Lower Jordan River Study Area includes all of Salt Lake County and consequently the total in table 2 reflects the total for the county.

The division inventoried over 222,786 acres of land in Salt Lake County. This amounts to about 52 percent of the entire land area in the Lower Jordan River Study Area. Areas not inventoried are mainly rangeland or national forest. In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Wet Flats are generally mapped if they fall within or border irrigated lands. Wet Flats alone are normally not mapped. Acres shown in the table reflect only the numbers of acres mapped, not the total numbers of acres in the subarea. The Salt Water category includes: the Great Salt Lake and evaporation ponds within the shoreline of the Great Salt Lake such as those at AMAX or Great Salt Lake Minerals Co.. This acreage (obtained from existing maps and LANDSAT imagery) represents the Great Salt Lake at an average surface elevation (4200'). Evaporation ponds outside the shoreline of the Great Salt Lake Such as those used by Kennecott or American Salt are not included in the Salt Water category but are included in other categories. Non-irrigated agricultural lands are generally mapped if they fall within or border irrigated lands. Non-irrigated lands away from irrigated lands are often not mapped. Acres shown for this category reflect only the number of acres mapped, not the number of acres that may be in this category in the Study Area.

Table 2. Summary of land cover by subarea for the Lower Jordan River (Salt Lake Co.) Study Area (acres).

| Code | Cover | Trvrs mts West 04-02-001 | Bfld/Rose Cyn. 04-02-002-01 | Herriman 04-02-002-02 | Bingham Cyn. 04-02-003 | Bear/Bells Cyn. 04-02-004 | L. Cttnwd Cyn 04-02-005 | Big Cttnwd Cyn 04-02-006 | Mill Cr. Cyn. 04-02-007 | Parleys Cyn. 04-02-008 |
|---|---|---|---|---|---|---|---|---|---|---|
| IA1a | Fruit | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA1e | Other Horticulture | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2a | Grain | 0 | 521 | 21 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2a1 | Corn | 0 | 171 | 8 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2b | Vegetables | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2b1 | Potatoes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2b2 | Onions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2b3 | Beans | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2c | Other Row Crops | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA3a | Alfalfa | 0 | 915 | 209 | 1 | 0 | 0 | 0 | 0 | 0 |
| IA3b | Grass Hay | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA3c | Grass/Turf | 0 | 141 | 24 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA3d | Pasture | 0 | 376 | 158 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA4a | Fallow | 0 | 138 | 35 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA4b | Idle Overgrown | 0 | 166 | 20 | 0 | 0 | 0 | 0 | 0 | 69 |
| IIA1a | Pasture (surf. & sub.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIA1b | Grass Hay (surf. & sub.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Surface Irr. Cropland Subtotal | | 0 | 2,456 | 475 | 1 | 0 | 0 | 0 | 0 | 69 |
| IIA2a | Sub. Irr. Pasture | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIA2b | Sub. Irr. Grass Hay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sub. Irr. Cropland Subtotal | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Irrigated Croplands Subtotal | | 0 | 2,456 | 475 | 1 | 0 | 0 | 0 | 0 | 69 |
| IIB | Cattail/Bullrush Aspect | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIB-E | Wet/Vegetation Asp. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIC | Wet Flats | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIE | Riparian | 0 | 0 | 0 | 85 | 0 | 0 | 0 | 0 | 53 |
| IIF | Open Water | 0 | 44 | 0 | 51 | 13 | 35 | 96 | 0 | 75 |
| IIF2 | Reservoirs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF4a | Temporary Flooded | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF4b | Sewage Lagoon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF4c | Evaporation Pond | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 |
| IIF5 | Salt Water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wet/Open Water Subtotal | | 0 | 44 | 0 | 153 | 13 | 35 | 96 | 0 | 128 |
| VA | Farmsteads | 0 | 142 | 64 | 25 | 0 | 0 | 0 | 0 | 0 |
| VB | Residential | 0 | 277 | 238 | 79 | 0 | 0 | 170 | 0 | 4 |
| VB3 | Open Spaces | 0 | 3 | 33 | 13 | 0 | 0 | 0 | 0 | 158 |
| VC | Commercial/Industrial | 0 | 10 | 0 | 403 | 0 | 49 | 0 | 0 | 0 |
| Residential/Industrial Subtotal | | 0 | 432 | 335 | 520 | 0 | 49 | 170 | 0 | 162 |
| Land Use/Land Cover Totals | | 0 | 2,932 | 810 | 674 | 13 | 84 | 266 | 0 | 359 |

Table 2. Continued.

| Code | Cover | Emigration Cyn. 04-02-009 | Red Butte Cyn. 04-02-010 | City Creek Cyn. 04-02-011 | Tailings Pond 04-02-012 | Harkers/Coon Cyn 04-02-013 | Bluffdale 04-02-014 | Draper 04-02-015 | Riverton 04-02-016 | Sandy 04-02-017-01 |
|---|---|---|---|---|---|---|---|---|---|---|
| IA1a | Fruit | 0 | 0 | 0 | 0 | 5 | 15 | 66 | 0 | 47 |
| IA1e | Other Horticulture | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2a | Grain | 0 | 0 | 0 | 0 | 77 | 504 | 409 | 646 | 80 |
| IA2a1 | Corn | 0 | 0 | 0 | 0 | 9 | 101 | 548 | 148 | 85 |
| IA2b | Vegetables | 0 | 0 | 0 | 0 | 0 | 0 | 155 | 9 | 28 |
| IA2b1 | Potatoes | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| IA2b2 | Onions | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 |
| IA2b3 | Beans | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2c | Other Row Crops | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA3a | Alfalfa | 0 | 0 | 0 | 0 | 13 | 784 | 1,081 | 859 | 232 |
| IA3b | Grass Hay | 0 | 0 | 0 | 0 | 39 | 37 | 159 | 29 | 32 |
| IA3c | Grass/Turf | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| IA3d | Pasture | 0 | 0 | 0 | 0 | 349 | 771 | 781 | 497 | 419 |
| IA4a | Fallow | 0 | 0 | 0 | 0 | 0 | 143 | 56 | 130 | 0 |
| IA4b | Idle Overgrown | 0 | 0 | 0 | 0 | 11 | 356 | 365 | 214 | 97 |
| IIA1a | Pasture (surf. & sub.) | 0 | 0 | 0 | 0 | 22 | 25 | 146 | 17 | 43 |
| IIA1b | Grass Hay (surf. & sub.) | 0 | 0 | 0 | 0 | 92 | 0 | 0 | 0 | 0 |
| Surface Irr. Cropland Subtotal | | 0 | 0 | 0 | 0 | 617 | 2,736 | 3,781 | 2,550 | 1,063 |
| IIA2a | Sub. Irr. Pasture | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 230 | 51 |
| IIA2b | Sub. Irr. Grass Hay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sub. Irr. Cropland Subtotal | | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 230 | 51 |
| Irrigated Croplands Subtotal | | 0 | 0 | 0 | 0 | 617 | 2,744 | 3,781 | 2,780 | 1,114 |
| IIB | Cattail/Bullrush Aspect | 0 | 0 | 0 | 0 | 236 | 0 | 0 | 0 | 0 |
| IIB-E | Wet/Vegetation Asp. | 0 | 0 | 0 | 0 | 14,591 | 0 | 0 | 0 | 0 |
| IIC | Wet Flats | 0 | 0 | 0 | 0 | 10,574 | 0 | 0 | 0 | 0 |
| IIE | Riparian | 0 | 0 | 0 | 0 | 26 | 255 | 20 | 0 | 12 |
| IIF | Open Water | 0 | 13 | 18 | 5 | 403 | 5 | 0 | 3 | 5 |
| IIF2 | Reservoirs | 0 | 0 | 0 | 0 | 3,874 | 0 | 0 | 0 | 0 |
| IIF4a | Temporary Flooded | 0 | 0 | 0 | 0 | 49 | 0 | 0 | 0 | 0 |
| IIF4b | Sewage Lagoon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF4c | Evaporation Pond | 0 | 0 | 0 | 6,810 | 1,352 | 0 | 178 | 0 | 0 |
| IIF5 | Salt Water | 0 | 0 | 0 | 0 | 854 | 0 | 0 | 0 | 0 |
| Wet/Open Water Subtotal | | 0 | 13 | 18 | 6,815 | 31,959 | 260 | 198 | 3 | 17 |
| VA | Farmsteads | 0 | 0 | 0 | 0 | 16 | 69 | 149 | 42 | 19 |
| VB | Residential | 360 | 0 | 0 | 0 | 33 | 1,038 | 2,064 | 1,964 | 10,929 |
| VB3 | Open Spaces | 0 | 0 | 0 | 0 | 13 | 0 | 45 | 7 | 148 |
| VC | Commercial/Industrial | 0 | 0 | 0 | 0 | 2,782 | 247 | 289 | 61 | 501 |
| Residential/Industrial Subtotal | | 360 | 0 | 0 | 0 | 2,844 | 1,354 | 2,547 | 2,074 | 11,597 |
| Land Use/Land Cover Totals | | 360 | 13 | 18 | 6,815 | 35,420 | 4,358 | 6,526 | 4,857 | 12,728 |

Table 2. Continued.

| Code | Cover | White City 04-02-017-02 | S. Jordan 04-02-018 | W. Jordan 04-02-019 | Midvale 04-02-020 | SLC#3 04-02-021-01 | SLWCD#1 04-02-021-02 | SLWCD#2 04-02-021-03 | SLWCD#3 04-02-021-04 | Holiday 04-02-021-05 |
|---|---|---|---|---|---|---|---|---|---|---|
| IA1a | Fruit | 14 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 |
| IA1e | Other Horticulture | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 |
| IA2a | Grain | 0 | 902 | 701 | 20 | 6 | 0 | 0 | 0 | 0 |
| IA2a1 | Corn | 7 | 76 | 74 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2b | Vegetables | 0 | 0 | 52 | 0 | 8 | 0 | 0 | 0 | 0 |
| IA2b1 | Potatoes | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2b2 | Onions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2b3 | Beans | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2c | Other Row Crops | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA3a | Alfalfa | 13 | 1,724 | 941 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA3b | Grass Hay | 0 | 17 | 36 | 0 | 0 | 0 | 35 | 0 | 0 |
| IA3c | Grass/Turf | 0 | 76 | 25 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA3d | Pasture | 5 | 1,020 | 595 | 1 | 87 | 61 | 63 | 59 | 0 |
| IA4a | Fallow | 0 | 64 | 152 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA4b | Idle Overgrown | 0 | 183 | 226 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIA1a | Pasture (surf. & sub.) | 0 | 271 | 169 | 0 | 0 | 0 | 0 | 141 | 0 |
| IIA1b | Grass Hay (surf. & sub.) | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Surface Irr. Cropland Subtotal | | 39 | 4,364 | 2,986 | 21 | 123 | 61 | 98 | 200 | 0 |
| IIA2a | Sub. Irr. Pasture | 0 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIA2b | Sub. Irr. Grass Hay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sub. Irr. Cropland Subtotal | | 0 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Irrigated Croplands Subtotal | | 39 | 4,420 | 2,986 | 21 | 123 | 61 | 98 | 200 | 0 |
| IIB | Cattail/Bullrush Aspect | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIB-E | Wet/Vegetation Asp. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIC | Wet Flats | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIE | Riparian | 0 | 214 | 7 | 0 | 105 | 0 | 65 | 0 | 0 |
| IIF | Open Water | 0 | 82 | 0 | 0 | 9 | 0 | 11 | 0 | 0 |
| IIF2 | Reservoirs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF4a | Temporary Flooded | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF4b | Sewage Lagoon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF4c | Evaporation Pond | 0 | 383 | 18 | 0 | 0 | 0 | 0 | 0 | 0 |
| IIF5 | Salt Water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wet/Open Water Subtotal | | 0 | 679 | 25 | 0 | 114 | 0 | 76 | 0 | 0 |
| VA | Farmsteads | 0 | 97 | 28 | 0 | 0 | 0 | 0 | 0 | 0 |
| VB | Residential | 1,359 | 2,737 | 5,323 | 1,420 | 13,553 | 796 | 1,230 | 2,176 | 1,859 |
| VB3 | Open Spaces | 0 | 159 | 148 | 3 | 282 | 0 | 0 | 0 | 0 |
| VC | Commercial/Industrial | 0 | 197 | 1,423 | 622 | 313 | 0 | 28 | 418 | 0 |
| Residential/Industrial Subtotal | | 1,359 | 3,190 | 6,922 | 2,045 | 14,148 | 796 | 1,258 | 2,594 | 1,859 |
| Land Use/Land Cover Totals | | 1,398 | 8,289 | 9,933 | 2,066 | 14,385 | 857 | 1,432 | 2,794 | 1,859 |

## Table 2. Continued.

| Code | Cover | Murray 04-02-022 | Tlrsvl/Bnion 04-02-023 | Kearns 04-02-024 | Grngr/Hntr 04-02-025 | Magna 04-02-026 | So. Salt Lake 04-02-027 | SLC#2 04-02-028 | SLC#1 04-02-029 | Subareas Total |
|---|---|---|---|---|---|---|---|---|---|---|
| IA1a | Fruit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 178 |
| IA1e | Other Horticulture | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 21 |
| IA2a | Grain | 0 | 51 | 0 | 110 | 0 | 0 | 0 | 170 | 4,218 |
| IA2a1 | Corn | 0 | 75 | 0 | 36 | 32 | 0 | 0 | 97 | 1,467 |
| IA2b | Vegetables | 0 | 0 | 0 | 0 | 0 | 0 | 68 | 0 | 320 |
| IA2b1 | Potatoes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| IA2b2 | Onions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| IA2b3 | Beans | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IA2c | Other Row Crops | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 5 |
| IA3a | Alfalfa | 0 | 264 | 5 | 831 | 262 | 0 | 1 | 114 | 8,284 |
| IA3b | Grass Hay | 3 | 0 | 0 | 40 | 0 | 0 | 0 | 217 | 625 |
| IA3c | Grass/Turf | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 794 | 1,078 |
| IA3d | Pasture | 80 | 54 | 0 | 791 | 634 | 0 | 141 | 1,826 | 8,768 |
| IA4a | Fallow | 0 | 5 | 0 | 26 | 0 | 0 | 0 | 0 | 818 |
| IA4b | Idle Overgrown | 0 | 56 | 0 | 161 | 35 | 0 | 1 | 108 | 1,999 |
| IIA1a | Pasture (surf. & sub.) | 0 | 34 | 0 | 0 | 0 | 0 | 105 | 123 | 1,096 |
| IIA1b | Grass Hay (surf. & sub.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 | 208 |
| Surface Irr. Cropland Subtotal | | 83 | 539 | 5 | 2,000 | 992 | 0 | 316 | 3,540 | 29,115 |
| IIA2a | Sub. Irr. Pasture | 0 | 0 | 0 | 144 | 37 | 0 | 22 | 55 | 603 |
| IIA2b | Sub. Irr. Grass Hay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 59 | 59 |
| Sub. Irr. Cropland Subtotal | | 0 | 0 | 0 | 144 | 37 | 0 | 22 | 114 | 662 |
| Irrigated Croplands Subtotal | | 83 | 539 | 5 | 2,144 | 1,029 | 0 | 338 | 3,654 | 29,777 |
| IIB | Cattail/Bullrush Aspect | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 210 | 446 |
| IIB-E | Wet/Vegetation Asp. | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 1,452 | 16,049 |
| IIC | Wet Flats | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 180 | 10,754 [1] |
| IIE | Riparian | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 5 | 878 |
| IIF | Open Water | 0 | 0 | 0 | 81 | 0 | 0 | 14 | 100 | 1,063 |
| IIF2 | Reservoirs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 3,934 |
| IIF4a | Temporary Flooded | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 |
| IIF4b | Sewage Lagoon | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 18 |
| IIF4c | Evaporation Pond | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 260 | 9,018 [2] |
| IIF5 | Salt Water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 854 [3] |
| Wet/Open Water Subtotal | | 0 | 0 | 0 | 81 | 49 | 0 | 20 | 2,267 | 43,063 |
| VA | Farmsteads | 0 | 0 | 0 | 22 | 181 | 0 | 3 | 13 | 870 |
| V8 | Residential | 5,533 | 5,544 | 2,697 | 7,838 | 1,838 | 1,595 | 15,546 | 523 | 88,723 |
| VB3 | Open Spaces | 0 | 226 | 26 | 131 | 106 | 0 | 1,555 | 141 | 3,197 |
| VC | Commercial/Industrial | 326 | 690 | 545 | 2,554 | 135 | 1,084 | 3,685 | 6,994 | 23,356 |
| Residential/Industrial Subtotal | | 5,859 | 6,460 | 3,268 | 10,545 | 2,260 | 2,679 | 20,789 | 7,671 | 116,146 |
| Land Use/Land Cover Totals | | 5,942 | 6,999 | 3,273 | 12,770 | 3,338 | 2,679 | 21,147 | 13,592 | 188,986 |

[1] In conducting water-related land use inventories, the division attempts to inventory all lands or areas that consume or evaporate water other than natural precipitation. Wet Flats are generally mapped if they fall within or border irrigated lands. Wet Flats alone are normally not mapped. Acres shone in the table reflect only the numbers of acres mapped, not the total numbers of acres in the subarea.

[2] Some evaporation ponds were not photographed with 35mm slides. Data were obtained from LANDSAT imagery.

[3] The Salt Water category includes: the Great Salt Lake, Evaporation ponds within the shoreline of the Great Salt Lake such as those at AMAX or Great Salt Lake Minerals Co. This acreage (obtained from existing maps, LANDSAT imagery and 35mm slides) represents the Great Salt Lake at an average surface elevation of 4,200 feet above mean sea level.

## METHODOLOGY FOR GATHERING LAND USE DATA

### Background

The methodology used by the division over the past 25 years in conducting water-related land use studies has varied with regard to the procedures used, detail, etc. Earlier inventories were prepared with large format vertical-aerial photographs supplemented with field surveys to label boundaries, vegetation types, and other water use information.

After identifying crops and labeling photographs, the photographs were projected onto a base map and then planimetered or "dot-counted" to determine the acreage. Tables for individual townships and ranges were prepared showing total land within every section and the amount of land in each land use category. Data were then available for use in preparing water budgets.

The water-related land use inventories completed by the division and the U.S. Soil Conservation Service (SCS) over the last 25 years have essentially covered the entire state. The two agencies have inventoried about 4 million acres (including 1.4 million acres of irrigated land) in order to acquire the data needed to prepare hydrologic inventories and to conduct other water-related studies in Utah.

In the early 1980s, the division began updating its methodology for collecting water-related land use data to take advantage of the rapidly growing fields of remotely sensed data and computerized Geographic Information Systems (GIS). Updating land use data for each hydrologic area of the state is an on-going process, and the division has now developed procedures for consistent data gathering and for updating it at 7- to 10-year intervals.

For several years, the division contracted with the University of Utah Research Institute, Center for Remote Sensing and Cartography (CRSC), to prepare water-related land use inventories. During this period, water-related land use data was obtained by using high altitude color infrared photography and laboratory interpretation, with field checking. More recently, the division has entered into cooperative agreements with several federal and other state agencies to complete and update all land use data for the state of Utah.

Present Method

In March 1984, several division staff members visited the California Department of Water Resources to observe its methodology for collecting water-related land use data for state water planning purposes. The division, based on its review of the California methodology and its own experience, developed a water-related land use inventory program. This program includes the use of 35mm slides, USGS 7-1/2 minute quadrangle maps, field-mapping using base maps produced from the 35mm photography and a computerized geographic information system to process, store and retrieve land use data.

The first step in a water-related land use inventory is to identify areas to be covered with aerial photography for any individual year. These areas are identified on maps of suitable scale (usually 1:100,000) using previous land use studies and other available information such as maps generated from high altitude color infrared photography or Landsat. Flight lines plotted on the maps show land areas to be covered with aerial photography. Flight lines are generally plotted running north and south through the center of the sections to be photographed. An exception to the

practice is a long narrow canyon with irrigated land only in the bottom. When this situation is encountered, the flight line will follow the canyon without regard to section lines or compass directions.

During the second step, identified areas are photographed using 35mm slide film. Ideally, the 35mm photography should be conducted at a time of year that shows the highest contrast between the water-related land use areas (mainly irrigated land) and surrounding areas. When field mapping/checking is to be conducted in the same season, the photographs are taken as early in the growing season as possible. The division has generally found that the period from June 15 to July 15 is the best time for this photography. The division specifies that aerial photographs be obtained using an aircraft (Figure 20) carrying a high quality 35mm single lens reflex camera mounted to focus along a vertical axis to the earth. A 24mm lens is required and photos must be taken between 6,000 and 6,500 feet above the ground. This procedure allows each slide to cover a little more than one square mile with approximately 30 percent overlap on the wide side of the slide and 5 percent on the slide's narrow side. High quality commercial color positive film is used with appropriate commercial processing after each day's flight. The slides are then cataloged according to the flight-line number and shown on a location map. All 35mm slides are stored in files at the division offices and cataloged according to individual quadrangle map location.

After cataloging the slides, the division transfers boundaries of water-related areas from the slide to USGS 7-1/2 minute quadrangle maps using a standard slide projector with a 100-200mm zoom lens. The image is directed from the projector, located below a glass table top, to a 45 degree first surface mirror to the back of a quadrangle map. The image showing through

Figure 40. Typical aircraft used for aerial photography.

the map is adjusted to the map scale with the zoom lens. Field boundaries and other water-use boundaries are then traced on the 7-1/2 minute quadrangle map. At the same time, a technician attempts to identify the category of land use or land cover and uses a code for the appropriate category in each water use area on the field map. The date that transfer of slide data was completed is also noted on the map. Figure 41 illustrates this basic procedure.

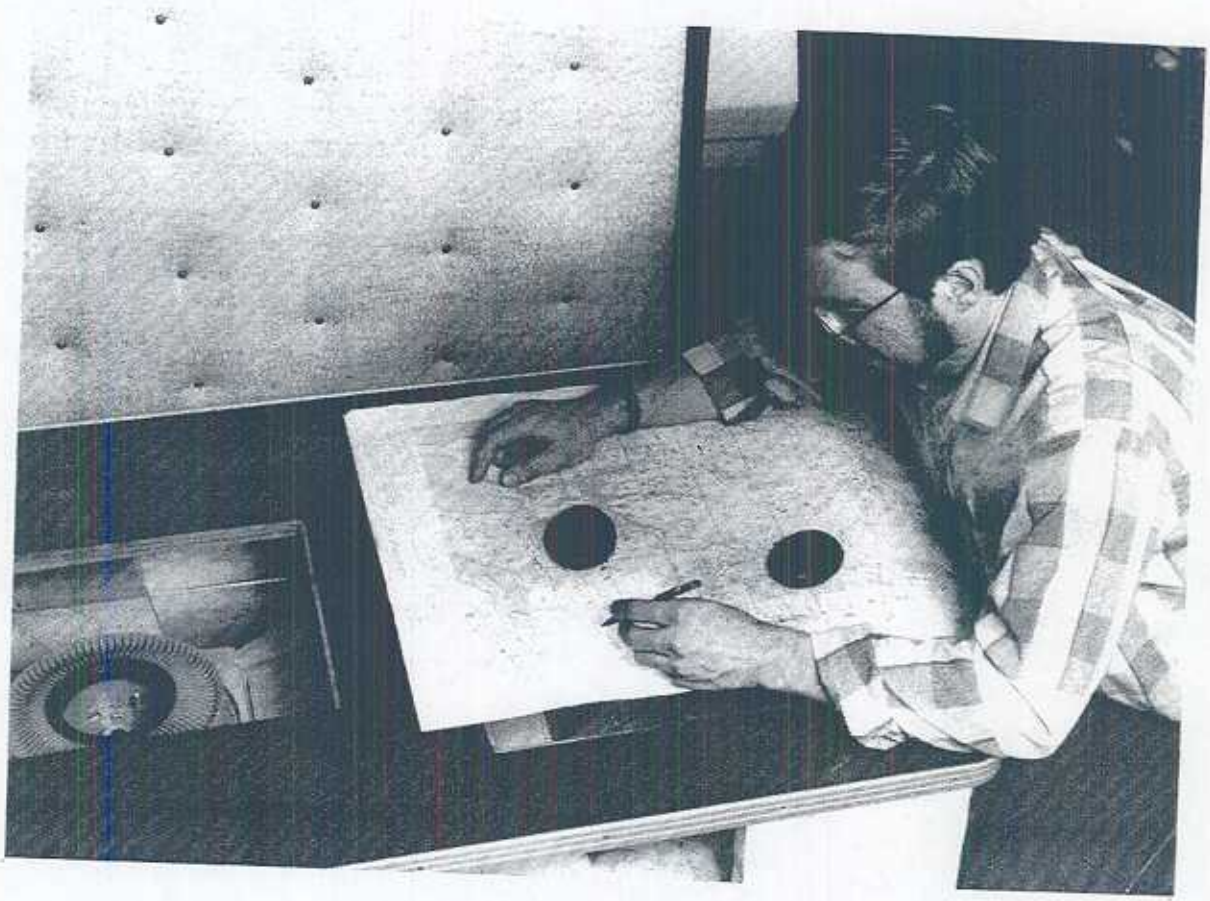

Figure 41. Mapper transferring slide data to field map.

After the slide data are transferred to the quadrangle map, a two-person team uses the map in the field to check the boundaries and land use data on the quadrangle and marks in red the actual land use or land cover category if it is different than the category originally identified. After the land classification on the quadrangle map has been field-checked, the field team marks the completion date on the edge of the map. Figure 42 shows a Division of Water Resources field map after field-checking has been completed.

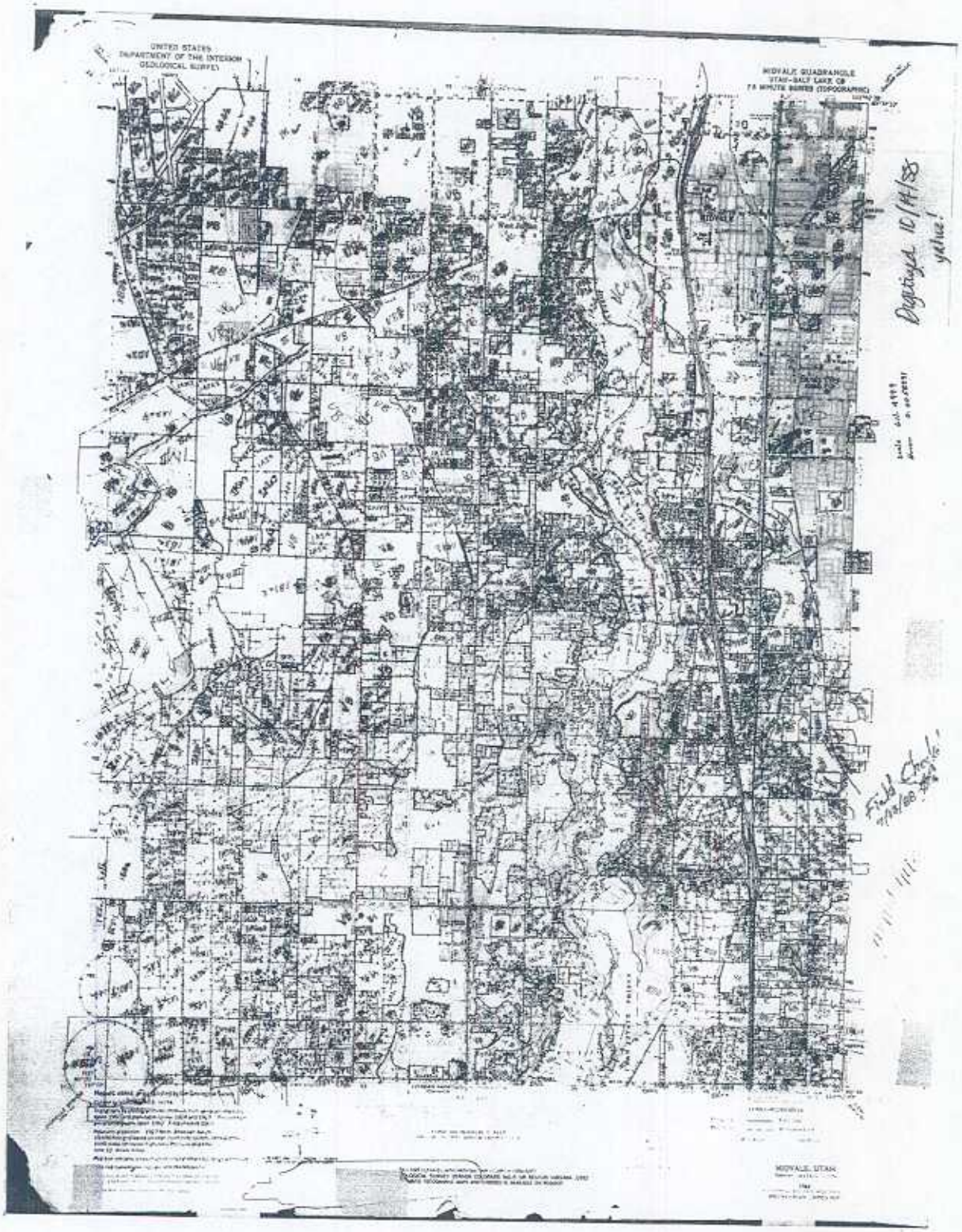


Figure 42. Field map after field checking has been completed. (Monument Peak NW Quadrangle)

The next step is to digitize and process the field data. Digitizing is the process of converting data from map or image form to digital form for computer analysis. Typically, digitizing and entering the categories of land use into the computer is performed during the fall and winter following the aerial photography. This is accomplished by using ESRI ARC/INFO Software and a digitizer board large enough to hold a quadrangle map. The division's digitizing work station is shown in Figure 43. All processed data is filed in the State AGRC database. The division uses the special data management and geographic information management capabilities of the AGRC ARC/INFO system to produce tabulated water-related land use maps.

Figure 43. Digitizing work station.

Once the land use data have been digitized and processed through the AGRC ARC/INFO system, the division plots out a 7-1/2 minute quadrangle line map of the data. These plots are overlaid on the field maps to check for errors in recording or digitizing. An example of a line map of the Midvale 7 1/2 minute quadrangle is shown in Figure 44.

Computer-Generated Line Maps Legend for Figure 44.
Lower Jordan River Study Area.

| Label | Code | Cover Type |
|---|---|---|
| O | IA1a | Orchards |
| BR | IA1e | Berries |
| G | IA2a | Grain |
| C | IA2a1 | Corn |
| V | IA2b | Vegetables |
| PO | IA2b1 | Potatoes |
| ON | IA2b2 | Onions |
| B | IA2b3 | Beans |
| T | IA2b4 | Tomatoes |
| S | IA2c | Other Row Crops |
| A | IA3a | Alfalfa |
| P1 | IA3b | Grass Hay |
| P | IA3d | Pasture |
| TF | IA3e | Turf/Grass Yards |
| F | IA4a | Idle-Plowed |
| I | IA4b | Idle-Overgrown |
| DG | IB1a | Non Irr. Crops |
| DA | IB2a | Non Irr. Alfalfa |
| DP | IB2b | Non Irr. Pasture |
| DF | IB3a | Non Irr. Idle-Plowed |
| DI | IB3b | Non Irr. Idle-Overgrown |
| IWP | IIA2a1 | Irrigated Wet Pasture |
| IWP1 | IIA2a2 | Irrigated Wet Grass Hay |
| WP | IIA2b1 | Wet Pasture/Non Irr. |
| WP1 | IIA2b2 | Non Irr. F.W. Hay Land |
| WF | IIC | Wet Flats |
| WR | IIB | Cattail/Bulrush |
| W | IIF | Open Water |
| WM | IIF4a | Temp. Flooded/Marsh |
| SL | IIF4b | Sewage Lagoons |
| EP | IIF4c | Evaporation Pond |
| R | VB1 | Buildings/Homes |
| R2 | VB2 | Buildings/Homes |
| RP | VB3 | Open Spaces |
| R | VB6a | Residential |
| CM | VC1 | Commercial |
| CI | VC2 | Industrial |
| CS | VC3 | Open Spaces |

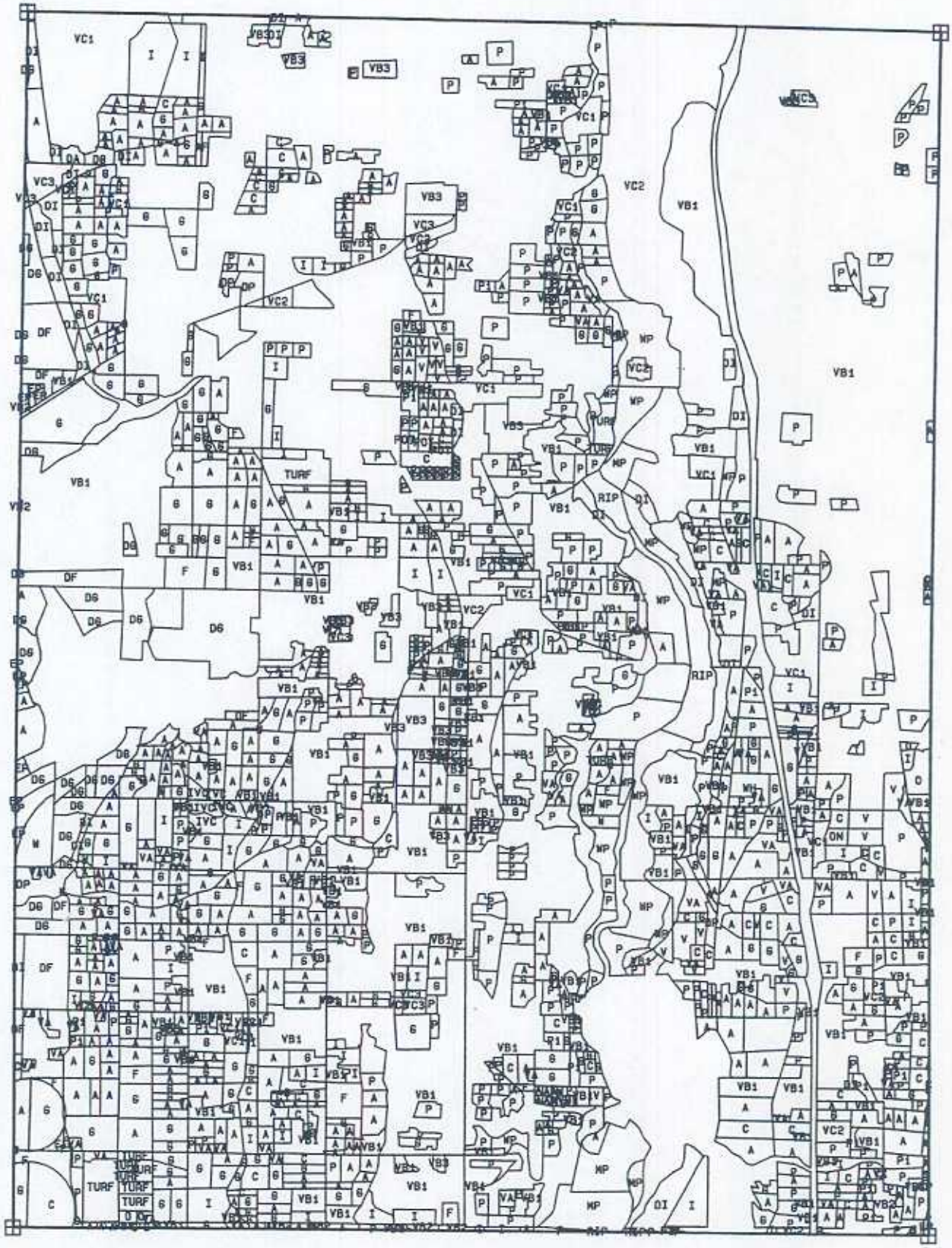

Figure 44. Computer-generated line map of the Midvale 7-1/2 minute quadrangle.

Once checked, the data in the AGRC ARC/INFO system become available for use in water resource planning studies. A map of the Midvale quadrangle, similar to what might be obtained from the AGRC, is shown in Figure 45.

Legend for computer generated color map Figure 45.

| | | |
|---|---|---|
| IA1a | FRUIT | IRRIG. CROPLAND |
| IA1e | BERRIES | |
| IA2a | GRAIN | |
| IA2a1 | CORN | |
| IA2a2 | SORGHUM | |
| IA2b | VEGETABLES | |
| IA2b1 | POTATOES | |
| IA2b2 | ONIONS | |
| IA2b3 | BEANS | |
| IA2c | OTHER ROW CROPS | |
| IA3a | ALFALFA | |
| IA3b | GRASS HAY | |
| IA3c | GRASS/TURF | |
| IA3d | PASTURE | |
| IA4a | FALLOW | |
| IA4b | IDLE | |
| IIA1a | PASTURE | GRASSY/PHREATO. |
| IIA1b | HAYLAND | |
| IIA2a | PASTURE | |
| IIA2b | HAYLAND | |
| IB | NON IRR. CROPLAND | NON-IRRIG. CROPLAND |
| IB1a | GRAIN | |
| IB2a | ALFALFA | |
| IB2b | PASTURE | |
| IB3a | FALLOW | |
| IB3b | IDLE | |
| IIC | WET FLATS | GRASSY/PHREATO./WATER |
| IIE | RIPARIAN | |
| IIF | OPEN WATER | |
| IIF4a | TEMP. FLOODED | |
| IIF4b | SEWAGE LAGOON | |
| VB | RESIDENTIAL | BUILT-UP LAND |
| VB4 | OPEN SPACES | |
| VC | COMMERCIAL/INDUSTR. | |

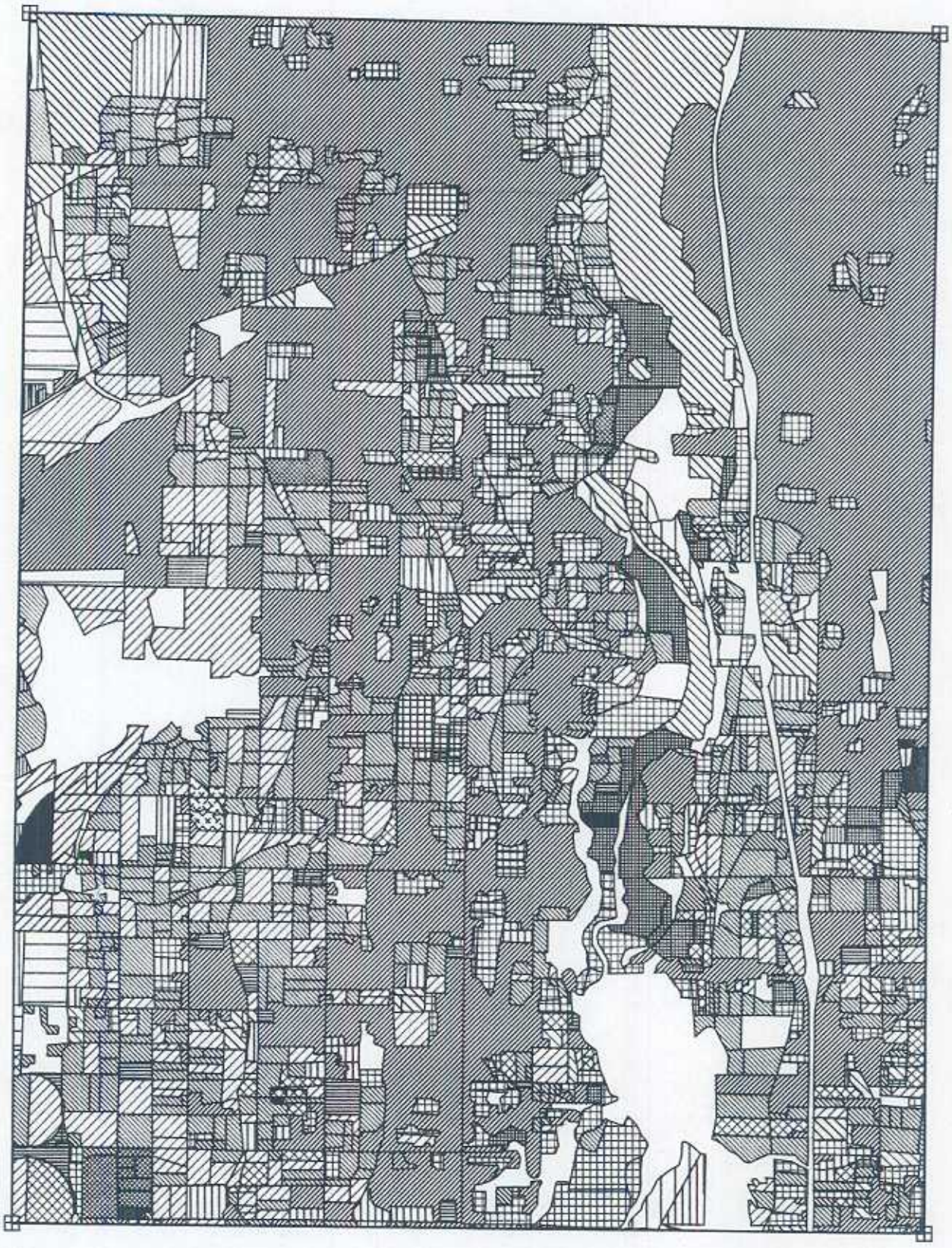

Figure 45. Final computer-generated map of the Midvale 7-1/2 minute quadrangle.

## LAND USE CATEGORIES

During the division's years of collecting water-related land use data, land use categories and map codes have varied from inventory to inventory.

In late 1984, at the beginning of the division's new phase of mapping water-related land use, an Active Mappers Committee was formed. The committee reviewed all ongoing mapping efforts in the state and then focused on the issue of coordinating and standardizing map data. A summary of the committee's work is given in Appendix B. The division is committed to using the *1988 Standard Cover Types and Codes List* developed from this committee. Codes from this standard cover type list, with descriptive information, are shown in Table 1.

As each water-related land use inventory for the state is completed and, also, when some areas are re-inventoried, it is useful in some instances to tabulate and compare inventories and respective changes. Because of the different names of cover type and codes that were used earlier to the *1988 Standard Cover Types and Codes List*, it becomes necessary that earlier names of cover types and codes should be provided in this report. Table 3 shows the codes from earlier studies that relate to the standard cover types. Appendix C lists the previous land use studies conducted by the division.

Table 3. List of cover types and land use codes (standardized in 1988) for the State of Utah with the state code and comparisons of the 1988 standard code and cover type to previous land use inventories.

| STATE CODE | COVER TYPES (Standardized in 1988) | UTAH LK. (66)[a] BEAR R. (69) WEBER R. (70) | UINTAH (67) W. COLO. (67) VIRGIN R.(78) UINTA B. (80) | SALT LAKE COUNTY (82) | U. SEVIER (81) M. SEVIER (83) L. SEVIER (85) BEAR R. (86) WEBER R. (87) |
|---|---|---|---|---|---|
| I | Cropland | -[b] | - | - | *[c] |
| IA | Irrigated | A[d] | A | - | * |
| IA1 | Hort. & Specialty Crops | - | - | - | * |
| IA1a | Fruit | A8 | A16 | - | * |
| IA1a1 | Cherry | - | - | - | * |
| IA1a2 | Apple | - | - | - | * |
| IA1a3 | Peach | - | - | - | * |
| IA1a4 | Pear | - | - | - | * |
| IA1a5 | Apricot | - | - | - | * |
| IA1a6 | Other | - | - | - | * |
| IA1b | Nuts | - | - | - | * |
| IA1b1 | Walnut | - | - | - | * |
| IA1b2 | Pecan | - | - | - | * |
| IA1b3 | Other | - | - | - | * |
| IA1c | Vineyard | - | - | - | * |
| IA1d | Bush Fruit | - | - | - | * |
| IA1e | Berries | - | - | - | * |
| IA1f | Nurseries | - | - | - | * |
| IA1g | Other | - | - | - | * |
| IA2 | Row & Close-Grown Crops | - | - | - | * |
| IA2a | Grain | A4 | - | Ag | * |
| IA2a1 | Corn | A5 | A1 | - | * |
| IA2a2 | Sorghum | - | - | - | * |
| IA2a3 | Wheat | - | A9 | - | * |
| IA2a4 | Barley | - | A7 | - | * |
| IA2a5 | Oats | - | A8 | - | * |
| IA2a6 | Other | - | - | - | * |
| IA2b | Vegetables | - | - | - | * |
| IA2b1 | Potatoes | A7 | A3 | - | * |
| IA2b2 | Onions | - | - | - | * |
| IA2b3 | Beans | A13 | - | - | * |
| IA2b4 | Tomatoes | A10 | A5 | - | * |
| IA2b5 | Sweet Corn | - | - | - | * |
| IA2b6 | Other | A6,A9,A11 | A2,A4,A6 | - | IA2b5* |

[a] The data in parentheses (66) identifies the year the field checking was conducted for the various inventories.
[b] The dash (-) indicates that there was no corresponding cover type mapped for the above inventories.
[c] The asterisk (*) indicates that the cover type for the above inventories is the same as the 1988 standard cover types.
[d] The use of a code, such as the (A) footnoted, indicates that the code used for the above inventory corresponds to the 1988 standard cover types.
[e] The codes that appear in this column are those that are different than the 1988 standard code.

Table 3. Continued.

| STATE CODE | COVER TYPES (Standardized in 1988) | UTAH LAKE (66)[1] BEAR R. (69) WEBER R. (70) | UINTAH (67) W. COLO. (67) VIRGIN R. (78) UINTA B. (80) | SALT LAKE COUNTY (82) | U. SEVIER (81) M. SEVIER (83) L. SEVIER (85) BEAR R. (86) WEBER R. (87) |
|---|---|---|---|---|---|
| IA3 | Forage Crops | - | - | A | * |
| IA3a | Alfalfa | A1 | A10 | - | * |
| IA3b | Grass Hay | A3 | A12 | - | * |
| IA3c | Grass/Turf | - | - | - | IA3e |
| IA3d | Pasture | A2 | A13 | - | * |
| IA3e | Other | - | A11 | - | IA3c |
| IA4 | Other | - | A18 | Ai | * |
| IA4a | Fallow Plowed | - | - | - | * |
| IA4b | Idle (Overgrown) | A12 | A17 | - | * |
| IB | Non-Irrigated | E | B | D | * |
| IB1 | Row & Close-Grown Crops | - | - | - | * |
| IB1a | Grain (Beans, Seeds) | E1 | - | - | * |
| IB1a1 | Wheat | - | B2 | - | * |
| IB1a2 | Other Grains | - | B3 | - | * |
| IB1a3 | Dry Beans | - | B4 | - | * |
| IB1a4 | Safflower | - | - | - | * |
| IB2 | Hayland Crops | - | - | - | * |
| IB2a | Alfalfa | E2 | B1 | - | * |
| IB2b | Pasture | E3 | B5 | - | * |
| IB2c | Other | E5 | - | - | * |
| IB3 | Other (Plowed) | - | B7 | - | * |
| IB3a | Fallow | E4 | B6 | DF | * |

[1] The data in parentheses (66) identifies the year the field checking was conducted for the various inventories.
[2] The dash (-) indicates that there was no corresponding cover type mapped for the above inventories.
[3] The asterisk (*) indicates that the cover type for the above inventories is the same as the 1988 standard cover types.
[4] The use of a code, such as the (A) footnoted, indicates that the code used for the above inventory corresponds to the 1988 standard cover types.
[5] The codes that appear in this column are those that are different than the 1988 standard code.

Table 3. Continued.

| STATE CODE | COVER TYPES (Standardized in 1988) | UTAH LAKE (66)[1] BEAR R. (69) WEBER R. (70) | UINTAH (67) W. COLO. (67) VIRGIN R.(78) UINTA B. (80) | SALT LAKE COUNTY (82) | U. SEVIER (81) M. SEVIER (83) L. SEVIER (85) BEAR R. (86) WEBER R. (87) |
|---|---|---|---|---|---|
| II | Meadow/Wetlands/Open Water | C | O,F | - | * |
| IIA | Grassy Aspect | - | - | - | * |
| IIA1 | Irrigated | - | - | - | * |
| IIA1a | Pasture | - | A14 | - | IIA1a1,2a1 |
| IIA1b | Hayland | - | A15 | - | IIA1a2,2a2 |
| IIA2 | Non-Irrigated | - | - | - | * |
| IIA2a | Pasture | C4 | 8,F8 | Ws | IIA1b1,2b1 |
| IIA2b | Hayland | - | - | - | IIA1b2,1b2 |
| IIA2c | Non-Agricultural Use | - | - | - | IIA1b3,2b3 |
| IIB | Cattail/Bullrush | C1 | F4 | Wc | * |
| IIC | Wet Flats (barren) | - | - | M | * |
| IID | Shrub Aspect | C5 | F2 | - | * |
| IIE | Riparian | C2 | - | Wr | * |
| IIE1 | Forested Aspect | - | F1 | - | * |
| IIE2 | Shrub Aspect | C3 | 3,5,6,7,9 | - | * |
| IIF | Open Water | B | E | - | * |
| IIF1 | Streams | - | - | - | * |
| IIF2 | Reservoirs | - | E1,E2 | - | * |
| IIF3 | Ponds/Lakes | - | E4 | - | * |
| IIF4 | Other | - | E3 | - | * |
| IIF4a | Temporarily Flooded | - | - | - | * |
| IIF4b | Sewage Lagoon | - | - | - | * |
| IIF4c | Evaporation Pond | - | - | S | IIFAC,VC2 |

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[2] The dash (-) indicates that there was no corresponding cover type mapped for the above inventories.
[3] The asterisk (*) indicates that the cover type for the above inventories is the same as the 1988 standard cover types.
[4] The use of a code, such as the (A) footnoted, indicates that the code used for the above inventory corresponds to the 1988 standard cover types.
[5] The codes that appear in this column are those that are different than the 1988 standard code.

Table 3. Continued.

| STATE CODE | COVER TYPES (Standardized in 1988) | UTAH LAKE (66)[1] BEAR R. (69) WEBER R. (70) | UINTAH (67) W. COLO. (67) VIRGIN R.(78) UINTA B. (80) | SALT LAKE COUNTY (82) | U. SEVIER (81) M. SEVIER (83) L. SEVIER (85) BEAR R (86) WEBER R. (87) |
|---|---|---|---|---|---|
| III | Range & Forest Land | - | - | - | * |
| IIIA | Alpine Plants | - | - | - | * |
| IIIB | Conifer | - | - | | |
| IIIB1 | Douglas/White Fur | - | - | Uc | * |
| IIIB2 | Ponderosa | - | - | - | * |
| IIIB3 | Fir/Spruce | - | - | - | * |
| IIIB4 | Lodgepole Pine | - | - | - | * |
| IIIB5 | Pinyon-Juniper | - | - | - | * |
| IIIB6 | Etc. | - | - | - | * |
| IIIC | Deciduous | - | - | | |
| IIIC1 | Aspen | - | - | Ud | * |
| IIIC2 | Mountain Brush | - | - | - | * |
| IIIC3 | Etc. | - | - | - | * |
| IIID | Grass Aspect | - | - | | |
| IIID1 | Dry Pasture | - | - | - | * |
| IIID2 | Native Grasses | - | - | - | * |
| IIID3 | Etc. | - | - | Ug | * |
| | | | | - | * |
| IIIE | Shrub Aspect | - | - | | |
| IIIE1 | Northern Desert Shrub | - | - | - | * |
| IIIE1a | Sagebrush | - | - | Um | * |
| IIIE1b | Etc. | - | - | - | * |
| | | | | - | * |
| IIIE2 | Southern Desert Shrub | - | - | | |
| IIIE2a | Creosote Bush | - | - | - | * |
| IIIE2b | Etc. | - | - | - | * |
| | | | | - | * |
| IIIE3 | Salt Desert Shrub | - | - | | |
| IIIE3a | Shadescale | - | - | - | * |
| IIIE3b | Greasewood | - | - | - | * |
| IIIE3c | Saltbrush | - | - | - | * |
| IIIE3d | Desert Molley | - | - | - | * |
| IIIE3e | Etc. | - | - | - | * |
| | | | | - | * |

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Table 3. Continued.

| STATE CODE | COVER TYPES (Standardized in 1988) | UTAH LAKE (66)[1] BEAR R. (69) WEBER R. (70) | UINTAH (67) W. COLO. (67) VIRGIN R.(78) UINTA B. (80) | SALT LAKE COUNTY (82) | U. SEVIER (81) M. SEVIER (83) L. SEVIER (85) BEAR R. (86) WEBER R. (87) |
|---|---|---|---|---|---|
| IV | Barren Lands | - | - | - | * |
| IVA | Bare Soil/Sand | - | - | - | * |
| IVA1 | Dry Salt Flats | - | - | - | * |
| IVA2 | Beaches | - | - | - | * |
| IVA3 | Other Sandy Areas | - | - | - | * |
| IVA4 | Other | - | - | - | * |
| IVB | Rock Outcrop | - | - | Ur | * |
| IVC | Excavated Land | - | - | E | * |
| IVD | Other | - | - | - | * |
| V | Built-Up Land | D | C | - | * |
| VA | Farmstead | - | - | - | * |
| VA1 | Builds/Homes | - | C1,C5 | - | * |
| VA2 | Open Spaces | - | C4 | - | * |
| VB | Residential | - | - | - | * |
| VB1 | High Density | - | C3 | Rt,R | VB1,VB2,VB6a |
| VB2 | Low Density | - | - | R1 | VB3 |
| VB3 | Open Spaces | - | C2 | L | VB4 |
| VB4 | Idle | - | - | - | * |
| VC | Commercial/Industrial | F | D | C | * |
| VC1 | Commercial | - | - | - | * |
| VC2 | Industrial | - | - | - | VC4 |
| VC3 | Open Spaces | - | - | X | * |
| VD | Transportation & Utilities | - | - | D | VD,VE |
| VE | Other | - | - | - | * |

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[5] The codes that appear in this column are those that are different than the 1988 standard code.

# APPENDIXES

## APPENDIX A

Hydrologic Inventories

Utah Lake Drainage Area. In cooperation with Utah State University. November 1969. 136 pages - includes substantial climatic, streamflow, and groundwater data, detailed water budgets, and more general information on water quality, geology, economy, history, and physiography.

Uintah Study Unit. In cooperation with Utah State University. March 1970. 181 pages - includes substantial climatic, streamflow, and groundwater data, detailed water budgets, and more general information on topography, geology, arable lands, history, economy, water quality and water development and management. (out of print, file copy only)

Weber River Study Unit. In cooperation with Utah State University. August 1970 - includes substantial climatic, streamflow and groundwater data, detailed water budgets, and more general information on topography, geology, economy, and water quality.

Great Salt Lake Desert Area. In cooperation with Utah State University. November 1971. 70 pages - includes substantial climatic and water resources data, water budget for Tooele Valley, and more general information on physiography, economy, geology, and water management aspects.

Bear River Study Unit. In cooperation with Utah State University. February 1973. 126 pages - includes substantial climatic, streamflow, and groundwater data, detailed water budgets, and more general information on water quality, topography, geology, and economy.

Price River Study Unit. June 1975. Includes climatic, streamflow, and groundwater data, detailed water budgets, and more general information on water quality, topography, geology, and economy.

Escalante River Study Unit. December 1976. Includes climatic, streamflow, and groundwater data, detailed water budgets, and more general information on water quality, topography, geology, and economy.

Dirty Devil River Study Unit. January 1977. Includes climatic, streamflow, and groundwater data, detailed water budgets, and more general information on water quality, topography, geology, and economy.

San Rafael River Study Unit. January 1977. Includes climatic, streamflow, and groundwater data, detailed water budgets, and more general information on water quality, topography, geology, and economy.

Update of the Price River Study Unit. June 1978. Includes updated climatic, streamflow, and water use data and detailed water budgets.

Update of the San Rafael River Study Unit. December 1979. Includes updated climatic, streamflow, and groundwater data, detailed water budgets, and more general information on water quality, topography, geology, and economy.

Virgin and Kanab Study Units (Utah's Lower Colorado River Area). February 1983. Includes climatic, streamflow, and groundwater data, detailed water budgets, and more general information on water quality, topography, geology, and economy.

Hydrologic Inventory of Colorado, Dolores, and San Juan Study Units. September 1987. Includes climatic, streamflow, and groundwater data, detailed water budgets, and more general information on water quality, topography, geology and economy.

Hydrologic Inventory of the Sevier River Basin. January 1991. Includes climatic, streamflow, and groundwater data, detailed water budgets, and more general information on water quality, topography, geology and economy.

## APPENDIX B

In late 1984 at the beginning of Division of Water Resource's new phase of mapping water-related land use, an Active Mappers Committee was formed. The Division of Water Resources, Department of Natural Resource and The Division of Agriculture Development and Conservation, Department of Agriculture co-chaired this committee. Lloyd Austin, Division of Water Resources and Jim Christensen, Department of Agriculture filled these roles. Member agencies were:

Automated Geographic Reference
Bureau of Land Management
Bureau of Reclamation
Center of Remote Sensing, University of Utah
Dept of Transportation
Dept of Agriculture
Dept of Natural Resource
Dept of Health - Water Pollution
Div of Water Resources
Div of Water Rights
Div of Wildlife Resource
Soil Conservation Service
State Lands and Forestry
Utah Geological and Mineral Survey
U.S. Fish and Wildlife
U.S. Forest Service/Ogden
U.S. Forest Service
U.S. Geological Service
Utah State University-Extension Service

The committee surveyed all ongoing mapping efforts and then focused on the issue of coordinating and standardizing map data. The relationships between several state agencies and the AGRC program of the Office of Planning and Budget were also clarified. Three specific products came from this committee's work. The first was a standardized definition of a base resource data map file as follows:

| Layers of Data | Level of Detail |
|---|---|
| Infrastructure & Base | Map Quad Sheet (USGS Topo) 1:24,000 scale |
| Ownership | Federal/State/Private, input 1:250,000 scale |
| Soils | Level 3 definition with preferred input of 1:24,000 scale |
| Land Cover | Use standard legend and set preferred input 1:24,000 scale |
| Climate | Precipitation/Temperature 1:250,000 input scale |

Secondly, a standard legend for a cover map was developed and agreed upon which allows a hierarchy of data entry. This is shown as Table 1. The headings which are marked with an asterisk were minimum required for the base data set. Individual agencies could use finer breakdowns as needed for their specific programs.

The Division of Water Resources used only certain categories in the Lower Jordan River Study Area mapping which were considered necessary for water use budgets being prepared. All range land and forest land categories were left off while some categories were subdivided further than required by the base data set standards.

The third agreement reached by the committee was the use of a standard set of watershed units for the state. It was agreed that the maps developed by the United States Geological Survey working with National Water Resources Council would serve as the base standard. Individual agencies could then further subdivide these larger units for specific study purposes. This proposal was also presented to the Resource Development Coordinating Committee during the year 1986 and ratified.

## APPENDIX C

Water-Related Land Use Studies

Utah Lake Drainage Area. In cooperation with Utah State University. February 1968 - detailed water-related land use tables and maps.

Bear River Drainage Area. In cooperation with Utah State University. April 1969 - detailed water-related land use tables and maps.

Weber River Drainage Area. In cooperation with Utah State University. February 1970 - detailed water-related land use tables and maps.

Uinta Hydrologic Area. Staff Report No. 7. September 1971 - detailed water-related land use tables and maps.

West Colorado Hydrologic Area. Staff Report No. 8. January 1972 - detailed water-related land use tables and maps.

Uintah Basin. In cooperation with U.S. Soil Conservation Services and National Aeronautics and Space Administration. 1980. Contains detailed water-related land use maps and tables. Investigates the use of landsat data concurrently with the high altitude color infrared photography to update the changing patterns of land use. Performed under contract with the Center for Remote Sensing and Cartography of the University of Utah Research Institute. 109 pages plus maps.

Sevier River Basin (Upper Portion), 1981. Contains detailed water-related land use maps and tables. Performed under contract with the Center for Remote Sensing and Cartography of the University of Utah Research Institute. 27 pages plus maps.

Sevier River Basin (Lower Portion), 1985. Contains detailed water-related land use maps and tables.

Salt Lake County, 1982. Contains detailed water related land use maps and tables. Performed under contract with the Center for Remote Sensing and Cartography of the University of Utah Research Institute. 24 pages plus maps.

Sevier River Basin (Middle Portion), 1984. Contains detailed water-related land use maps and tables. Performed under contract with the Center for Remote Sensing and Cartography of the University of Utah Research Institute. 34 pages plus maps.

Virgin River Area, 1989. Contains detailed water-related land use maps and tables. Performed in cooperation with USDA Soil Conservation Service, St. George, Utah office and Utah Division of Water Rights, Cedar City Area Office. 56 pages plus maps.

Bear River Basin, 1991. Contains detailed water-related land use maps and tables. Performed in cooperation with Utah Division of Water Rights. 50 pages plus maps.

Columbia River Basin (Utah portion), 1991. Contains detailed water-related land use maps and tables. 46 pages plus maps.

Southeast Colorado Basin (Utah Portion), 1991. Contains detailed water-related land use maps and tables. 57 pages plus maps.

Sevier River Basin, 1992. Contains detailed water-related land use maps and tables. 136 pages plus maps.

Weber River Area, 1992. Contains detailed water-related land use maps and tables. 56 pages plus maps.

Kanab Creek/Virgin River Study Units, 1992. Contains detailed water-related land use maps and tables. 58 pages plus maps.

Cedar/Beaver Study Unit, 1993. Contains detailed water-related land use maps and tables. 46 pages plus maps.

Utah Lake Study Area, 1993. Contains detailed water-related land use maps and tables. 60 pages plus maps.

West Colorado Study Unit, 1993. Contains detailed water-related land use maps and tables. 68 pages plus maps.

Great Salt Lake Desert Study Unit, 1993. Contains detailed water-related land use maps and tables. 57 pages plus maps.